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ANNALS OF MEDICAL HISTORY

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DE STATICIS EXPERIMENTIS OF NICOLAUS CUSANUS*

By HENRY VIETS, M.D.

BOSTON, MASS.

ABOUT five hundred years ago the world was entering into a period of rebirth after its long lethargy of the Middle Ages. It was a period of beginning mental unrest and experimentalism, both partly ruled by the spirit of adventure. Men were breaking away from narrow, analytical medievalism to synthesize and build up a broad outlook on life. They were no longer satisfied to live a monastic life and spend their years scanning a single manuscript as dependent thinkers. Independence of thought, with its self-conscious freedom, became the watchword of the Renaissance.

We are all familiar with the great figures of both the Renaissance and the Reformation after the year 1500. Fifty years before this date, however, certain men, some of them thinking a century in advance of their time, were laying the foundation stones on which the Renaissance was to be established. One of them, little known in the annals of medical history, was almost the first to break away from the narrowness of the Middle Ages and become a student commanding all the then known sciences. Such a man was Nicolaus Cusanus. Only one figure of importance to science appears before his time in the Middle Ages, Roger Bacon, who, at the beginning of the thirteenth century, proclaimed that man, by the use of nature, could do all things. Cusanus, with his wider knowledge, two hundred years later, restated the same thought and, in order to prove his assertion, became one of the first scientific experimentalists.

He was born in the little village of Cues on the Moselle, half way between Trier and Coblenz, in the year 1401. The family name was Krebs or Khrypffs (Cryftz) and his father, Johann Krebs, is described as a sailor or fisherman, perhaps of some means. He died in 1450, just after his famous son had become a cardinal. The boy's mother, Catharina Römers, died in 1427. Little is known of the family. The original meaning of the name is, of course, a crab, and may have been derived from the family occupation, as fishermen. Krebs is still a common name in the Moselle district. The house of Nicholas' birth is standing today in a state of excellent preservation. Over the door has been erected a tablet containing the brief

* Read at a meeting of the Boston Medical History Club, October, 20, 1921.

facts in regard to his life, and a reproduction of the seal of the Cardinal showing a crab in the center. During the post-armistice period American troops occupied this house, Cues being within the area of the American Army of Occupation.

Nothing is known of the early childhood of Cusanus, except that there has grown up a story of very doubtful authenticity about his having fled from his father, because of ill treatment, to Count Ulrich of Manderscheid, in the neighbouring village. We know definitely, however, that the boy was sent at an early age, by Count Ulrich, to the famous school at Deventer, Holland. Deventer is about a hundred and fifty miles north of Cues, a long journey for those times, partly down the Rhine from Coblenz, past well-known religious centers such as Cologne and Düsseldorf, and then on foot or mule over the Holland hills to the great school of the Brothers of Common Life. The good Count must have seen great possibilities in this lad in his teens to send him on such a long and arduous journey five hundred years ago. Little did the youthful Nicholas Krebs realize, as he traversed this wonderful country for the first time, that he, thirty-five years later, would be a great Cardinal and papal legate over all the land as far as his eye could reach. We must think of this lad of the fifteenth century, however, as clear-eyed and thoughtful, observing nature at every hand, much as did John Hunter, the great experimentalist of the eighteenth century, in his boyhood days.

On reaching Deventer, Cusanus found a school well established and filled with ardent students. It was founded by Gerhard Groot, "Magnus," a striking personality of the late fourteenth century, and a papal legate to Holland. Born in 1340, he took his M. A. degree at the University of Paris in 1358. He then became a teacher of theology and philosophy at Cologne; later was canon of Utrecht and Aix-la-Chapelle. This remarkable man traveled throughout Holland, wearing old clothes, preaching penance and reform to thousands, with stupendous results. Many disciples gathered around him. He refused every dignity offered him by the state and church. His disciples are well remembered as copiers of manuscripts before the days of printing, many of which he distributed during his travels. By such means, knowledge was passed on from hand to hand. Groot founded the famous Brothers of Common Life, an order unique in that the members of it took no vows and worked for their bread between the times of their ministrations and teachings at the school at Deventer. Both of these principles were unheard of before Groot's time.

Another School at Zwolle near Deventer was founded by Zele, one of the pupils of Groot. Both of these schools were very important religious, educational influences in the fifteenth century, and boys streamed to them from all countries to receive their first teachings. It is not unusual, therefore, that Count Ulrich sent this young fisherman's son from Cues to Deventer. Cusanus received here his first inspirations of a moral and intellectual nature, but we know nothing definite of his studies except as they influenced, in a general way, his later life. He must have been profoundly impressed by his contact with the ardent, simple disciples of Groot, who was such an outstanding figure in history. In his will, as a tribute to this school, he left money enough to build a residence at Deventer for "twenty poor clerical students." This legacy was maintained for some years as the *Bursa Cusana* at the school. Ever humble, even in the greatness of his mature life, Cusanus was a firm believer in the principle of democracy of opportunity for rich and poor alike. He had been a "poor clerical student" and knew something of their struggles.

Except for the above facts, nothing more is known of Nicholas' early life or early education. We know, however, that in 1416 he went to the University of Heidelberg. He matriculated under the following signature, *Nicolaus Cancer de Coesze, cler(icus) Trever(ensis) dioc(esis)*.

The journey north to Deventer was the first important event in his life; the second came when he was seventeen years of age, and turned in a southerly direction to an even more famous school, this time, the University of Padua, nearly five hundred miles from his home. Count Ulrich must have had great faith in his youthful protégé! Padua, in 1417, already ancient and famed as a university, was beginning to emerge from its medievalism to take its part later in the growing Renaissance, under the influence of Montanus, Benedictus, Vesalius, Fallopius, Casserius and many others. Cusanus remained in Padua six years, until 1423, when he was graduated as a Doctor in Canon Law (*decretorum doctor*). He studied Latin, Greek, Hebrew, and later, Arabic. We know that one of his teachers was Guiliano Cesarini, later president of the Council of Basle. Here in the University, Krebs formed a friendship that lasted to the end of his days. This young man, three years his senior, was Paolo dal Pozzo Toscanelli, taking courses in mathematics, philosophy and medicine while Nicholas Krebs took law and mathematics. Toscanelli was graduated as a physician in 1424, a profession that his father had followed in Florence before him. So ardent a student of medicine was he that his friends called him *Paolo Fisico.* After graduating he went at once to Florence where he lived for the rest of his life. We know little of him as a practitioner, except that he was called to the deathbed of his lifelong friend, Cusanus, in 1464, but his fame was world-wide at the time as a learned man, and his judgment was sought on all abstruse questions of theoretical mathematics by both Regiomontanus and Cusanus. One of the works of Cusanus, "De transmutationibis geometricis," is dedicated to him, *ad Paulum magistri dominici Physicum Florentinum.* He was a careful astronomer, an observer of orbits and comets, especially Halley's comet in 1456. His work in cosmography is, of course, well-known to you. It is very probable that Columbus consulted with him about the passage to India and perhaps carried his maps on the famous voyage to America.

For the next two years we lose sight of Nicholas except for one reference not very clearly made in the literature. It is said that he practiced law after receiving his degree and lost a law suit at Mainz; as the result of this he decided to enter the church. This story, it has been pointed out, is rather unlikely in view of what we know later of Nicholas' life. At all events, he entered the church and, therefore, in 1425 went to the University of Cologne to study divinity. He was there fostered by the Archbishop of Trier, his native town of Cues being part of the archbishopric of Trier. It is said that the next year Nicholas became secretary to Cardinal Orsini, the papal legate for Germany, but the reference is doubtful. By 1428, he had finished his education at Cologne and had become a curate at Coblenz and other German cities and lastly in Belgium at Liège. This was probably a period of training in minor church matters, but he must have advanced rapidly, for three years later, in 1431, he began his public career at the Council of Basle.

To understand his work at the Council it will be necessary to review briefly the history of the papacy during the preceding years. Some fifty years before 1430 there had been a schism in the Catholic Church. At the Conclave after the death of Gregory XI, Urban VI, a Neapolitan, was elected (1378), but there was a distinct protest from the populace because a Roman had not received the nomination. Order was finally restored but the disturbed French cardinals succeeded in splitting the conference and retired for the second time, to Avignon in France with Clement VII as their pope. Therefore there were two popes for a time. This unfortunate situation continued for some years until 1409, when the Council of Pisa gathered without special authority. This body renounced both of these ruling popes and elected a third pope, Alexander V. The situation, therefore, left a three-headed papacy, and a schism within a schism.

This continued until 1414, when another Council was called by Sigismund, King of the Romans and later Emperor of Germany, which met at Constance. At this famous gathering the reformer Huss appeared, the doctrines of Wyclif were denounced, the books of Huss were burned and he with them. The Council did not succeed in disentangling the situation in regard to the popes but did elect Martin v in 1417, in place of the former pope elected at Pisa. Soon after this meeting at Constance, the news of the death of Huss penetrated into his native city, Prague, and a riot ensued by the Hussites. Two schools were formed, the Hussite opposing the Catholic. The storm soon abated, but by 1419 Protestantism was strongly in vogue. Thus, at this period in the church history, there were two great movements afoot, the beginning of Protestantism and the organization within the church, typified by the Councils of Pisa and Constance. In Germany, both Church and State were in an extremely bad condition; the bishops and abbots had begun to take an active part in the government and had become rulers and lords rather than shepherds. One son of each family usually sought the Church because of the easy life and the many benefices obtained. The number of monasteries controlled was enormous, thus increasing greatly the persons dependent, in large part, for support upon the working classes.

Into this complexed situation came Dr. Nicholas Krebs, a man in his early thirties, unknown except to a few, such as Count Ulrich of Manderschied, and his old professor at Padua, Cesarini, now president of the Council. The Council met first at Basle from 1431 to 1437, and later at Ferrara. The object was to settle many matters and was definitely hostile to the existing state of the papacy. Many members wanted a complete overthrow of all existing institutions, but some of the more thoughtful delegates were more conservative. Krebs was thoroughly embued with the necessity for reform but did not wish to become so radical as to overthrow all existing institutions. At this time he wrote his famous treatise "On Catholic Unity," *De Concordantia Catholica*, in which he placed the authority of councils, such as the Council of Basle, above that of the pope. After the council had met, however, for some years, he saw that all councils were fallible and later acknowledged his error in judgment. He then took the stand that the pope should be supreme and for this decision was honored by the then existing Pope, Eugenius iv. Other matters taken up at this famous Council of Basle interested Nicholas. He defended the cause of his old friend, Count Ulrich, in a minor matter, but the cause was lost. He suggested, perhaps the most important point at the Council, the reform of the Julian calender. In his "Reparatio Calenarii," (1436) he outlined a method, leading up directly to the work of Lilus and the Gregorian calendar of 1582. Cusanus and a French Cardinal who preceded him, Pierre D'Ailly (1350–1420) are important figures in the founding of the modern calendar.

As a result of the definite statement of allegiance to the Pope, made by Cusanus, he was sent to Constantinople by Eugenius iv, in 1437, where he remained two months. He gained, in this short time, many friends for the Pope. He also was interested in discovering Greek manuscripts and returned from the East with a number of them, chiefly mathematical, the translation of which into Latin he supervised.

Greek manuscripts were of great interest at the time. They had appeared in Europe after the great Crusades of the eleventh century when a few were brought back and deposited in the monasteries when monasticism ruled supreme over Europe and all monasteries had libraries. The monks were the great hoarders of learning, many of them "bookish men." Their time was partly spent in copying manuscripts and the arts of calligraphy, illumination and binding. In England it will be remembered that many of these manuscripts were destroyed by Henry viii. The largest collections of manuscripts in Europe were in the monasteries in Switzerland, at St. Gall, at the southern end of Lake Constance, and on the island of Reichenau. In France perhaps the most famous collection was at Cluny, and in Bavaria, at the Abbey of Tegernsee. By 1447 the schism of the Church had disappeared and Nicholas v was the pope at Rome. He was essentially a student and books were his great passion. It will be remembered that a few years before that time, about 1439, Gutenberg was building his presses at Mainz.

The real revival of the Greek letters is due in part to Petrarch, 1304–1374. He was born at Avignon and lived there just before the time of the residence of the popes. He did not begin the study of Greek until he was forty years old, but from then on spent most of his time studying the language and stimulating search for manuscripts. His great friend and fellow-student was Boccaccio, 1313–1375, who was also interested in classical studies. Petrarch formed one of the first modern scholars' libraries. Under his direction scholars traveled all over Italy and into Germany and Spain, collecting manuscripts from the monasteries, many of which are now deposited in the Bibliothèque Nationale in Paris. He inspired many to master the Greek language and to search for manuscripts throughout Europe. It is not surprising then, that nearly one hundred years later when Nicholas, keenly alive to all movements of his period, went to Constantinople, he was on the lookout for Greek manuscripts.

Nicolaus Cusanus
(1401–1464)

Other libraries of importance were begun at or about this time. The Vatican Library was founded by Pope Nicholas v in 1453. Cosimo de' Medici had begun the Medicean Collection a little earlier, to be followed by Poggio Bracciolini, who escaped from Constantinople with his precious freight in the first years of the fifteenth century. Not the least of these is the library of Cusanus himself, founded in the hospital built by him in his native village of Cues about 1450.

On his return, Cusanus reported to the Pope in 1438 at Ferrara and he was created a papal legate to various cities in Germany. During the next nine years he spent his time traveling throughout Germany and France. We hear of him at Mainz, Frankfort, Nuremberg and at the court of Charles vii of France. He rallied the various organizations of the Church to the support of Eugenius iv with such success that he was called "the Hercules of the Eugenians." As a result of this effort he was offered the red hat of a cardinal by Eugenius iv but refused at that time to take it. This was largely because the reign of Eugenius as a pope was nearly over, and the next year, 1447, Nicholas v was elected pope. Two years later, in 1449, Krebs was made

Cardinal-priest of S. Petri ad Vincula. He was appointed to the diocese of Brixen in 1450. His appointment, however, was opposed by Sigismund, Duke of Austria and Count of the Tyrol. The opposition was so strong that Nicholas could not take the appointment until 1452. In the meantime, he again went to Germany as a papal legate and also to the Netherlands. For two years he traveled throughout the country visiting many places and all the important monasteries and hospitals. He reformed and corrected many parishes. It is said of him that he rode a mule from place to place. A story is told of his reaching Halle on the 6th of June, 1451, where he was met by a multitude of the cheering populace. A large company had filled the streets before the Rathaus to do him honor, but with characteristic modesty and humility, he escaped the crowd and withdrew to an embrasure of a window where he had a long talk with Busch, a reformer of the time. He later made Busch his assistant in Germany in visiting the monasteries. His trip ended at Cologne in 1452. It was said that everywhere he went he was considered "an angel of light and peace."

For the next eight years he remained at his post at Brixen where he had great difficulty with Sigismund. At the end of this period the trouble had not been settled and Nicholas was imprisoned by Sigismund who extorted from him a treaty unfavorable to the bishopric. He then escaped and went back to Rome where he laid the case before the then ruling Pope, Pius II. Little protection, however, was offered Nicholas by this weak ruler. It was not until 1464, the year of the death of Cusanus, that the Emperor of Germany, Frederick III, finally forced Sigismund to submit to the Church. Cusanus never recovered from the ill treatment received at the hands of Sigismund. He was sent on another mission by the Pope but died on the way, at Todi, in Italy, on August 11, 1464, in the presence of his old schoolmate of Padua, Toscanelli, by this time a renowned physician, and another friend of his school days, Bishop Johannes Andreae. His body was buried at the church of S. Petri ad Vincula at Rome but the heart was removed and taken to his hospital at Cues.

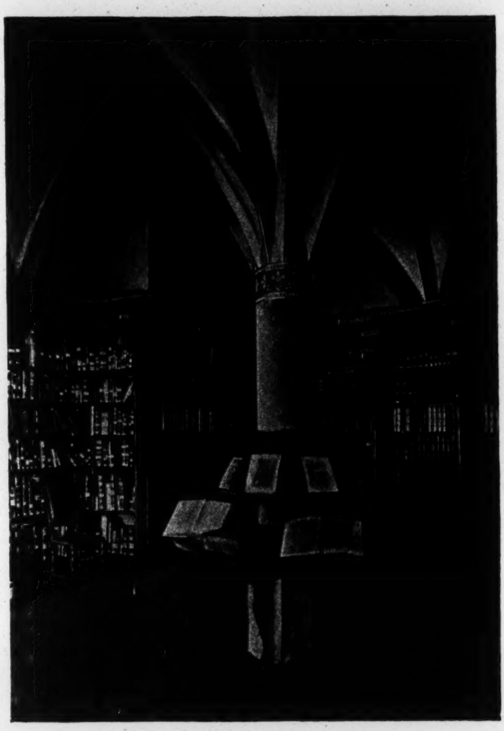
Such is a brief description of the life of Nicholas Krebs, known in history as Nicolaus Cusanus. It was a life full of travel, adventure and reforming activities. In his fifty years of active life, he must have had few moments of relaxation and quiet. We constantly hear of him going or coming, reforming both the Church and the State. He seems to have been almost indefatigable, for he traveled year in and year out, much of the time on a donkey, from one end of Germany to the other, everywhere restoring order, improving the intellectual outlook of the clergy and providing instruction for the people. He thoroughly appreciated the value of pictures for teaching purposes and he had illustrations made of the Ten Commandments, the Apostles' Creed and the Lord's Prayer, with text appended for use in the village churches.

It is said of him that he "ever remained simple in speech, manner and dress, was mindful of his humble origin and loved humanity." He distinguished himself while a student at Padua and later in almost every branch of science, but "he had no other ambition than to be the lowliest instrument in building up the House of the Lord." He was a believer in no half measures and early in his career he said, "a mortal sickness has afflicted the whole realm and death will inevitably follow if a stringent remedy be not applied." Cusanus carefully and conscientiously practiced all that he preached and lived a blameless life. He was always a student in spite of his almost superhuman activities, a man of faith and charity, possessing a mind capable of grasping all the then known human sciences, yet despising no detail as too elementary or trifling to occupy him.

Some time before his death Cusanus founded a hospital or almshouse in his native village of Cues, for thirty-three poor persons, the number being that of the years of the earthly life of Christ. To this institution he left his valuable library, his scientific instruments and most of his worldy possessions. In addition to the founding of the hospital at Cues and the *Bursa Cusana* at Deventer, he left two hundred and sixty ducats for the infirmary, S. Maria dell' Anima, at Rome. His will is in the library of this hospital. The building was begun about 1450 and since that date few changes have been made in its structure. It stands close to the river with the village grouped around it, a fine example of early Renaissance architecture. During the War, the thirty-three poor men retired to the village and the building was used as a German hospital until after the Armistice when American troops occupied the area and used it as a Field Hospital.

By the will of Cusanus the hospital is really a poorhouse, the stipulations for entrance being that only men can enter; they must be good, poor, over fifty years of age and not sick. The men are chosen from the district by the Burgomaster of Cues and his assistants. Each man has a good room and is comfortably housed. Arrangements are made for his family to be looked out for outside the hospital. Only within the last nine years have women been allowed in the building. Now (1919) there are six sisters and six domestics; the sisters belong to the Order of the Poor Handmaidens of Jesus Christ. The Rector of the Hospital is curator of the Library and Museum.

The library is an integral part of the hospital, occupying a small room on the second floor. The approach is through dark corridors of stone and up a winding pair of stairs, dark, forbidding and steep, a true medieval passage to a monastic-like treasure room. The opening of a heavy door, unlocked with difficulty, discloses a neat room lined with bookshelves and dimly lighted with leaded windows. Ancient tomes and many bound manuscripts fill the shelves with some of the finest of them in a glass cabinet along one wall. All are well marked and catalogued, thanks to the untiring efforts of Professor Marx of Trier, who spent many hours going over each item, carefully describing the binding, paper, illuminations, notes, etc. All his results are now published in a splendid catalogue *raisonné*.



LIBRARY IN THE HOSPITAL AT CUES

Great treasures are at hand in fifteenth century manuscripts besides many of the originals of the works of Cusanus, filled with superb astronomical drawings and beautiful illuminations. In the few minutes given to me, I could only turn some of the pages with admiration for the founder of such a wonderful collection of books, many of them so beautifully preserved for over four hundred years. Such a library is a fitting monument to a great figure in history.

The Library contains over three hundred manuscripts, about eighty-five incunabula and some fifty books published between 1500 and 1550. The subjects are mainly theological, although medicine and astronomy are well represented. Many of the manuscripts are beautifully bound in vellum or written on parchment heavily embellished with illuminated letters. Scattered throughout are notes in the Cardinal's hand, especially in the books on astronomy, and many of them contain numerous illustrations and diagrams dealing with astronomical and mathematical problems.

All of the works of Cusanus are found in the Library, most of them in manuscript form, although printed editions have been added later. One volume, in the hand of Rector Erckelentz (about 1488) is a complete copy of many of the manuscripts, and was probably used as the basis of the first printed edition. This was printed in Strasburg by Martin Flach in 1488–90. Seven copies of this edition are now in American libraries and another, now in the library of the late Sir William Osler, will soon be added to them. A second edition, which I have not seen, said to be almost identical with the first, was published in 1502. Another edition was printed in 1514 in Paris; still another, by Henri Petri at Basle, 1565.

The writings of Cusanus have been conveniently divided under four general headings: juridical, philosophical, theological and scientific. In the first group, juridical, are found "De Concordantia Catholica" and other papers written for the Council of Basle (1432–35). His philosophical works were mostly written after he was forty. "De Docta Ignorantia" (1439–40) is the best known. It centers on a definition of finite and infinite, and demands a system of philosophy tending to unify all experiences, but more especially religious experiences. His main theme is that "all human knowledge is mere conjecture and that man's wisdom is to recognize his ignorance." Other philosophical works along similar lines are "De Conjecturis" and "Compendium," the latter, more especially, attacking the methods of Aristotle.

The theological papers are many, and can only be alluded to here. They are said to be dogmatic and mystic. The scientific papers interest us more. There are about twelve of them, all short. The "Reparatio Calendarii" (1436), written for the Council of Basle, has been mentioned. Other papers deal with astronomy, partly the result of careful observations with a few instruments, and partly speculation. Another paper, "Quadratura Circuli" deals with the old problem of squaring the circle, the attempted solution of which by Cusanus was opposed by Regiomontanus and criticized by Toscanelli.

In other works, partly scientific, one finds many suggestions, especially on astronomy, antedating the works of Copernicus (1473–1543). Cusanus states, in "De Docta Ignorantia," that the earth is not the center of the universe and that it is not devoid of motion. He even goes so far as to note that the earth moves not only on its axis, but as the stars in the heavens. "I have long considered that this earth cannot be fixed, but moves as do the other stars," and again, "to my mind the earth revolves upon its axis once in a day and night." The full development of the heliocentric theory came nearly a century later when Copernicus completed his "De Orbium Coelestium Revolutionibus" in 1530, not daring to publish it, however, until 1543 because of its revolutionary character, or perhaps more truthfully, as Walsh remarks, "because his astronomical opinions were constantly progressing; and with the patience of true genius, he was not satisfied with anything less than the perfect expression of truth as he saw it." The notes of Cusanus passed unnoticed in 1450 and those of Copernicus were not accepted in 1545. Even as late as 1600, Giordano Bruno, an exponent of the views of Copernicus, died a martyr at the stake in Rome in defence of the Copernican theory. Copernicus, like Cusanus, was a product of the school of medicine at Padua. He practiced medicine throughout his life with skill.

In mathematics and physics Cusanus was much in advance of his age. He wrote extensively on geometry and arithmetic, partly in a philosophical vein. Cantor, in his "History of Mathematics," gives some twenty pages to him. Cusanus preceded Regiomontanus (1436–76), sometimes known as Johann Müller, who wrote the first book on trigonometry ("De Triangulis, Nuremberg, 1533) and completed Purbach's great work on the astronomy of Ptolemy. Regiomontanus was the outstanding figure of his time. He equipped the first European observatory, making the instruments himself, and had a printing press as early as 1474. It is said that he was greatly influenced by the work of Cusanus. He died at the early age of forty, twelve years after Cusanus.

In one short paper by Cusanus, "De Staticis Experimentis," are found many of his interesting contributions to science. It was written and published as the fourth part of a series of papers called "Idiotae libri quatuor," in the form of a dialogue between *Idiota*, or an ignorant man, and *Orator*. These four papers were published separately as "Idiota" (1476).[1] In "The Experiments on Statics," Cusanus expresses his fundamental ideas on the use of the balance in medicine and science.

Mitchell says, in his delightful essay on the "Early History of Instrumental Precision in Medicine," "the history of the balance in medicine is yet to be told." Cusanus' use of it forms an important chapter in its history. His work leads directly to Sanctorius and his metabolic studies with the steelyard chair and to Van Helmont's gravimetric analysis of urine.

THE HOUSE IN CUES, GERMANY, IN WHICH NICOLAUS CUSANUS WAS BORN

Cusanus first suggests that the balance might be used to establish more accurate judgments in regard to the qualities of water, blood, urine, herbs, etc., although he wisely remarks that "nothing in this world can reach absolute precision." Many mysteries, he says, can be truly solved by the differences of their weight. For instance, the weight of equal amounts of water from springs might be compared, and he quotes Vitruvius, the famous Roman architect and engineer, on the value of choosing the site for a house near lighter and sharper water rather than one located near heavy and earthy water, probably referring to the bad

[1] An English edition has been called to my attention by Dr. E. C. Streeter: "The Idiot in Four Books. The first and second of Wisdome. The third of the Minde. The fourth of statick Experiments, or experiments of the Ballance. By the famous and learned C. Cusanus, London, printed for William Leak, 1650." A copy is in the library of the University of Pennsylvania, Philadelphia.

effects of living near stagnant waters and perhaps suggesting the effects of malaria. The disease was common in Rome and the drainage of a swamp land was a plan of recognized value. A single manuscript of Vitruvius was found by Poggio Bracciolini while attending the council of Constance, at the monastery of St. Gall during the early life of Cusanus and it is not unlikely that he knew of it and perceived its value. We know that later in the Renaissance after the death of Cusanus the work of Vitruvius, "De Architectura," was the chief authority on the subject.

Perhaps more important than the weighing of water from different springs is the suggestion to weigh water from the same spring at intervals of time and thus note changes in its quality. It requires only a slight change of method to compare the weights of the sediments, a procedure now in vogue.

Cusanus also speculates, on less firm ground, in regard to the value of comparing the weights of equal volumes of the blood or urine of "a healthy man and of a weak one, of a young man and of an old, of a German and an African," thoughts which in part now find their place in the problems of modern blood chemistry. He also suggests that the difference noted in the blood and urine above would be an indication for the amount of treatment (herbs) to be given. Only very recently has the amount of blood sugar or the amount of protein in the cerebrospinal fluid been used as indicatory of the amount and character of diet to be given in diabetes, or the grams of arsenic to be administered in neuro-syphilis.

In suggesting the balance as a quantitative measure for metals, he first noted the difference between a weight in air and in water, *i.e.*, the specific gravity. He would use this to determine quality of metals much as we use it today, but he slyly remarks that such a method "would be of very great value in ascertaining how far the works of sophistical chemistry fall short of reality." A practical mind groping in the darkness of alchemy!

Among other points, Cusanus calls attention to the property of quicksilver clinging to other metals, the basis of making of mirrors, although today, of course, the silver is deposited by an electrical method. Also, he would measure the "pull" of a magnet by the use of the balance and, perhaps more important, he would compare the weight of an object with the weight of its ashes, thus estimating the loss of weight due to combustion. The absorption of water by seeds and the conversion of snow into water by heat are noted. In fact, so many points are brought out that he questions the possibility of recording all the facts even in a very large book. He remarks that "experimental science demands extensive treatises, for in proportion as they have been more numerous so much the more infallibly can the knowledge concerning experiments, which they bring to notice, be arrived at."

Another experiment is suggested, to record the humidity of the air by weighing an absorbable substance such as wool in dry air and moist air, and also, conversely, to test the drying power of the sun, both experiments being of great practical value to the agriculturist. Still other experiments test the speed of ships, and indicate his knowledge of both relative and absolute motion. The experiments relative to astronomy are fundamental but cannot be given here. Many of them are based on time as measured by the water clock, or clepsydra, which measured the time intervals by the flow of a definite amount of water. The Nuremberg eggs, the first watches, the invention of Peter Henlein, did not appear until the middle of the sixteenth century. Clocks only existed in the towers of cathedrals and public buildings; the water clock, in the time of Cusanus, was the only time measurer in the home.

Cusanus also suggested the use of the water clock to take the pulse, or rather, to weigh the water fallen from the clock during the time of one hundred pulse beats of a healthy man and during the time of an equal number of pulsations in a weak man. This method he would apply to men of various ages and with different diseases. The same method was used in relation to respiration, especially in fevers.

"The Experiments on Statics," therefore, is full of suggestions far in advance of its time. Some are, of course, only restatements of ideas expressed by others before the Middle Ages. Much of his work fell on deaf ears. Many years were to pass, even centuries, before the worth of these suggestions was tested or proved. We have no knowledge that Cusanus actually tested many of his theories himself. The work is certainly partly speculative; Cusanus' active mind formulated the problems and suggested proof of them by laboratory methods. A few of the geometrical and astronomical problems gave him much thought and he even solved correctly some of the mathematical ones. Undoubtedly, he pondered over them while traveling on his donkey throughout Europe. Once, when riding in a carriage, he noticed the track of a fly thrown off from the rim of a wheel, and from this observation he solved a mathematical curve.

"De Staticis Experimentis" contains so much of importance that one feels justified in producing a complete English translation of it. For this, I am indebted to the late Sir William Osler, who had the translation made for me in London from his own first edition of the works of Cusanus.

The Hospital at Cues, Germany

Let me conclude this brief and very incomplete paper by a summary note on the position Cusanus holds in history. He was not a "great" figure, when comparison is made with the stellar lights of the Renaissance who came after him, but even his relative importance has not been sufficiently emphasized. Burdened as he was by medieval theology, nevertheless, he saw and stated clearly certain principles of science and medicine that were either new or had been dormant in men's minds for centuries. His work in mathematical physics and on measurement and specific gravity once again called the attention of the world to the importance of science. In spite of his ecclesiastical standing, he was able to make, and had the courage to announce, his revolutionary theories of astronomy. To say that the earth was not the center of the universe when no one considered it otherwise, was an important and courageous stand to take. It was not, however, the first observation of this kind, but it was a restatement of the fact at an important and critical time in the history of world thought. Most thinkers of his time, entrusted by the popes as he was, were absolutely submissive to the will of the Church, and accepted without question all of the medieval canons upon which the Church stood.

In relation to medicine, his observations in "The Experiments on Statics" are fundamental. His great achievement was the counting of the pulse, which, as Norman Moore says, "had been felt and discussed in many ways, but never counted. The first method of a new invention is often unnecessarily cumbrous, but this does not detract from the merit of the man who first discerns its principle."[2]

In addition to his scientific achievements, we ought to remember Cusanus as an author and philosopher of rare ability. His philosophy is perhaps best expressed in the following quotation:

> To know, to meditate, to see the truth is a perpetual joy, and the older one grows the greater is the delight which it affords, and the more one gives one's self up to it the greater is one's longing for the possession of all truth. As love is the life of the heart, so is the endeavor after knowledge and truth the life of the mind. In the midst of the movements of time, of the daily work of life, of its perplexities and contradictions, we should lift our gaze fearlessly to the clear vault of heaven and seek ever to obtain a firmer grasp of, and keener insight into, the origin of all goodness and duty, the capacities of our own hearts and minds, the intellectual fruits of mankind throughout the centuries, and the wondrous works of nature around us; but ever remembering that in humility alone lies true greatness, and that knowledge and wisdom are alone profitable in so far as our lives are governed by them.

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DE STATICIS EXPERIMENTIS[3]

By

NICOLAUS CUSANUS

The layman's treatise concerning static experiments begins pleasantly.

The well-known Roman orator used to keep company with the idiot so that he might now and then hear his ideas, which pleased him.

When the orator praised a balance as being the scales of justice and an instrument of necessity to the state, the idiot replied:

Idiot. Although nothing in this world can reach absolute precision yet we endeavor to establish more accurate judgment and so it is accepted on all sides. But tell me, pray, since it is not possible for a weight to be of the same size in circumstances of diverse origin, should not each weight be tested by different experiments?

Orator. I have neither read nor heard so.

Idiot. I wish some one would furnish such a verification. Even were it spread over many volumes, I would gladly give attention to it.

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[2] According to Allbutt, Herophilus was the first to count the pulse, using a pocket water-clock made in Alexandria. (Allbutt, "Greek Medicine in Rome," London, 1921, pp. 139, 163, 301.)

[3] Translated from the Flach, Strasburg Edition, 1488–90. (Hain 5893[1]) in the library of the late Sir William Osler.

ORATOR. If you felt inclined to do it, I do not think anyone would do it better.

IDIOT. Anyone who wished could do it, for it is quite easy, but I lack the time.

ORATOR. Just speak of its usefulness and system. I will see if I, or someone else can finish it.

IDIOT. I think the mysteries of things are more truly solved by the differences of their weights, and that a great deal might be ascertained by a more accurate interpretation.

ORATOR. What you say is really excellent. For this the prophet tells what is the weight and balance, while the decision is His, who has created all things in number, weight and measure, and has launched springs of water and weighed out the mass of the earth, as the wise man writes.

IDIOT. If therefore a measure of the water of one spring is not of the same weight as an equal measure of another, the decision, as to the different nature of the one and the other, is better attained by a scale than by any other instrument.

ORATOR. You say well. Vitruvius writing on architecture advises that a site for a house should be chosen, which has lighter and sharper waters, while one which has heavy and earthy waters should be shunned.

IDIOT. Thus the waters of the same spring seem to be of the same weight and nature, whilst those of different springs are of different weight.

ORATOR. You say they seem, as though they were really something else.

IDIOT. I admit that weight varies with time—perhaps sometimes imperceptibly, for undoubtedly the weight of water is at one time this and at another time that. So too there is one weight of water round about a spring, another at a distance from the spring, but the differences being scarcely perceptible are considered of no consequence.

ORATOR. You think then that in everything it is just as you have said in respect of water.

IDIOT. Certainly I think so. For by no means have things similar in size, yet different in quality, the same weight. Hence since there is difference in the weight of the blood and urine of a healthy man and of a weak one, of a young man and of an old, of a German and an African, would not a physician hold it of the greatest value to have all these differences registered?

ORATOR. Most certainly. Indeed through having the weights authenticated he would think himself in an admirable position.

IDIOT. Now I think a physician would be able to come to a truer decision from the weight of urine and from its color at the same time, than from a deceptive color.

ORATOR. Most certainly.

IDIOT. So also, as the roots, stems, leaves, fruits, seeds and sap of herbs have their own weight, if the weights of all herbs were registered with their various situations, a physician could better arrive at the nature of them all from their weight and odor, than from a deceptive taste.

ORATOR. You speak excellently.

IDIOT. He might then learn from comparing the weights of herbs with the weight of blood, or urine, to arrive at the amount to be applied from the similarity and difference of the drug, and to make wonderful prognoses, and so from experiments by the scale everything knowable could be reached by a more accurate inference.

ORATOR. It is greatly to be wondered at that hitherto so many hard working researchers have been inactive in registering weights.

IDIOT. Do you not think that if you let water flow from the rigid opening of a water clock into a basin for so long as you could feel the pulse of a healthy youth beat a hundred times, and did similarly in the case of a weak lad, that differences of weight betwixt the waters would fall under your notice?

ORATOR. Who doubts it?

IDIOT. From the weight of waters therefore, the differences of the pulses would be arrived at, in the young, old, healthy, infirm, and so a truer knowledge of the disease; since there necessarily turns out to be one weight in one infirmity, another in another. Wherefore a more accurate judgment might be arrived at by such a difference resulting from an experiment of the pulses, and by the weight of the urine, than by the touching of a vein and the color of urine at the time.

ORATOR. You speak excellently.

IDIOT. If what has already been affirmed up to this point from the position of the weights of water affects spitting or breathing by inspiration and expiration, would it not still give a more accurate inference?

ORATOR. It would, certainly.

IDIOT. For if, while water flowed from a clock, 100 expirations were counted in a boy, and similarly in an aged man, it is not possible that the waters should turn out to be of the same weight. So I say in respect of other diverse ages and constitutions. Then when a physician had definitely fixed the weight of the breath of a healthy boy or young man, and likewise of a man suffering from various weaknesses, undoubtedly by such an experiment he would arrive more surely at the knowledge of health and of a fall away from it, and at the quantity of the remedies.

Orator. Yes, even at inferences of their period.

Idiot. You speak well. For if he were to discover in an uninjured youth the weight of an old and decrepit man, he would infer that he was surely about to die, and he would make wonderful inferences of this kind. If still in the case of fevers he could register by a similar method the conditions, hot and cold, by the differences of the weights of the water, would he not be able more truly to arrive at the effectiveness of the disease and the fitness of the remedy?

Orator. Undoubtedly he could, for he would test the ascendency of one quality over another, of heat over cold, and conversely, and according to the condition he had found, he would apply certain measures.

Idiot. Still I say in different nations, districts and types, these conditions change at the same period of age. Whence although difficult, it would be very useful to have them all registered according to their weights.

Orator. It is just as you say.

Idiot. It seems, however, that the weight of each thing should be taken as the average of its weights, as they vary in different climates. As, for instance, if the weight of a man be considered in comparison with another animal; then the man should be considered, not as living in the North or South, where here or there he is beyond the average; but rather as living in an average climate.

Orator. You speak excellently. The ancients called that climate "Dyarodon" for it stretched from East to West through the island of Rhodes. But I should like to know how you would proceed, if you were seeking the weight of an entire man, in comparison with any other animal.

Idiot. I should place the man on a scale and should hang a weight equal to him on another part of it; then I should put the man into water, and again outside the water I should hang a weight, equal to him, from another part; and I should note the difference of the weights. Also I should do the same with the given animal, and I should note down what I had learned from the various differences of the weights. After this I should direct my attention to the difference of the weights of man and animal out of the water, and then adjust and write down what I had found.

Orator. I do not approve of this principle of adjusting.

Idiot. I will show you.

And having taken a light piece of wood, whose weight was as III, while that of water filling the same space was as V, he divided it into two unequal parts, one of which was double the size of the other. He put both in a tall cask and held them down with a stick, while he poured water over them, and when he withdrew the stick, the pieces of wood jumped to the surface of the water, and the larger piece quicker than the smaller.

Look, you see the difference of motion in exact proportion with its cause, for in light pieces of wood, there is more lightness in the larger one.

Orator. I see and I am greatly pleased.

Idiot. So I say adjustment ought to be made. For, if a man because of his greater size was heavier than an animal he would sink in water quicker than an animal of the same proportion. Wherefore then the adjustment of a difference that has been discovered ought to be made by proportionally diminishing its excess.

Orator. I understand now. But tell me how the water hinders the wood sinking.

Idiot. Because the greater heaviness hinders the less. Wherefore if you have pressed a round piece of wood into wax and drawn it out, filling its place with water, and have noted the weight of this water and similarly of the wood, you will find that if the weight of the wood exceeds the weight of the water, the wood sinks; if not, it floats, and a part of the wood remains above the water in proportion to the excess of the weight of the water over the weight of the wood.

Orator. Why do you talk of round wood?

Idiot. If it is of a broad shape, it will cover more of the water and will float higher. Hence ships in waters of little depth ought to be of a wider bottom.

Orator. Go on with what you have begun. Could the weight of animals be arrived at in any other way?

Idiot. I think they could. For if you filled a balance with water up to the brim and put the same into another, then took the weight of a man outside the water, after this made him sink in the former scale and collected and weighed the water that flowed out, proceeding in like manner with another man, or animal, or any other thing, from the differences of the weights by an acute calculation you would arrive at what you sought.

Orator. Plainly I have often heard, that at times the difference of metals has been discovered by this system, and that some men have noted how much gold, silver, copper, and so of all metals, is collected by pouring out an ounce of wax.

Idiot. He who observes the quantity during its pouring out deserves to be praised. For he sees that if gold occupied as much space as an ounce of wax, then its weight would be so much. Thus too of other metals. For it is very certain that gold has one weight, silver another and other metals in relation to their quantity. And the weight of anything you like is one thing in air, another in water, another in oil, or in other liquid. Then, if anyone had all these weights registered, he would know forthwith how much heavier one metal is than another in air, or how much in water. Hence whatever mass were given, through the difference of its weights in air and water, he could tell to what metal or to what mixture, the mass belonged, and as it has been settled regarding air and water, so also it could be settled concerning oil, or any other fluid, in which an experiment has been made.

Orator. So without pouring out the mass, or separating the metals, the mixture would be found out, and this system would be useful in mints to find out how much copper has been mixed with gold or silver.

Idiot. You say well. Certainly it would be of very great value in ascertaining how far the works of sophistical chemistry fall short of reality.

Orator. If anyone therefore proposed to write a book on weights he ought even to register the difference of every metal, as it seems; for the gold of Hungary has one weight, the gold of Obren another. And so of each metal.

Idiot. From the foregoing statements it is certain that as in springs, so also in mines difference of weight is found. Gold, however, wherever it is found, is always heavier than any other metal. So that golden glitter is found to vary in weight within a certain limit. And so of the rest.

Orator. From the position of the weights of metals, can the position of their masses be sought for.

Idiot. Lead is much like gold in weight, but not at all as regards its perfection. So, I do not consider that attention should be given to one weight alone, but to each weight in turn. For if anyone gives attention to the molten fire both of gold and lead, he will find that lead approaches gold less than any other metal; and if anyone gives attention to the weight of the fire of melting iron, he will realize that iron approaches gold more nearly than does any other metal: question how far this is of less importance in comparison with gravity. Wherefore all sorts of weights ought to be given attention—not gravity only, and thus we find silver to be nearer to gold.

Orator. Vitruvius says concerning the weight of the substance of gold that it alone sinks in quicksilver, of however little heaviness it may be, whilst other metals float of however great mass they are.

Idiot. Quicksilver can be compared with all metals on account of the property common to itself and them; but it clings more closely to gold, as the least perfect in its quality to the most perfect. Hence those who have leisure for experimenting in chemistry seek to overcome quicksilver by fire, when not only does it not vanish from the fire, but keeps all other metals, to which it is united, fixed with itself and not only this, but brings them to the weight of gold by its permanent nature of flowing and its malleable moisture, and tinges them with a fixed and permanent color.

Orator. Do you think then it is possible to accomplish what they propose?

Idiot. Accuracy remains unattainable, but how far they have progressed the scale shews, without which they can accomplish nothing certain, for by this judgment of fire and scale, investigation of this subject can be made.

Orator. Can all precious stones be weighed in like manner?

Idiot. There is no doubt that all can be weighed by one system, for a diamond has one weight as compared with a piece of lead of equal size and a sapphire has another, likewise compared with a piece of lead of equal size and from their different sizes the relation of the leaden weights of each is known. And similarly concerning all stones, so that by that method of experiment with a scale, it would be very useful to have the weights registered with their different sources, so that if any falsities were made in beryl or colored crystal they could be detected.

Orator. As a stone has one weight in air, another in water and another in oil, it would be good to have their differences noted, so that without referring to lead or any other third matter, the differences of their weights might be known.

Idiot. You speak excellently.

Orator. Tell me if it appears to you that the value of stones could be weighed by any other method.

Idiot. I think that the value of a loadstone might be weighed, if iron having been placed on one side of a scale, and loadstone balancing it on the other side, then, the loadstone, weighing so much, having been taken away and another weight substituted for it, if the loadstone were held over the iron so that the iron fixed on the double sided balance were attracted upwards to the loadstone, by this movement out of level with the other side the weight would be made heavier until the iron was pulled back to the level while the loadstone remained unmoved. I think the value of the loadstone might be said to have been relatively weighed through this drawing back of the weight (to its former level position). Similarly also the value of a diamond might be arrived at from how far it is said to prevent a loadstone from attracting iron, and other values of other stones from their control and also from the difference of the size of their substance, since in a larger substance would be larger value.

Orator. Could not also a skilled man find out how much quicksilver and how much sulphur any metal, or stones contain?

Idiot. He could certainly by the agreement and disagreement of weights closely search out all such questions, and likewise the elements of quicksilver from the difference of its weight in air, water, and oil, compared with water and oil and with the weight of ashes of the same size. So also of sulphur. Thus through this method he could arrive by a more accurate inference at the elements of all metals and stones and at the weights of their elements.

Orator. These are admirable ideas. Could it not also be done in respect of herbs, woods, flesh, animals and fluids?

Idiot. In respect of all, I think. For when wood has been weighed and after being burned its ashes weighed too, one learns how much water was in the wood, for only water and earth have a heavy weight. Likewise it is known from the difference of the weight of wood in air, water and oil, how much that water in wood is heavier or lighter than the pure water of a spring. So too, how much air (was in the wood) and from the difference of the weights of the ashes how much fire, and thus the elements are searched for by a more accurate inference; although absolute precision may be always unattainable. Also what has been said concerning wood may likewise be said of herbs, flesh and other things.

Orator. It is said that no simple element can be found in the way in which we have done this experiment by scale.

Idiot. If anyone having put 100 lbs. of earth in a cask, afterwards packed up the 100 lbs. excluding herbs, or seeds, which had been thrown upon the earth, after first being weighed, and in a short time again weighed that earth, he would find it diminished in weight. From which he would gain an opinion that the herbs he had gathered had been made heavier by water. The waters therefore mingled with the earth have attracted these herbs, belonging to the earth. The actions of the sun too on herbs are congested. If these herbs were burned would you not infer through the differences of all the weights how much earth over 100 lbs. you had acquired? It is manifest also that the extra weight had been added by that water. Elements are partly converted into one another, as we find when glass is placed upon snow we discover that the air on the glass is condensed into water, like a fluid on the glass. So we find that certain water is turned into stones like water into ice, and there is a quality, for hardening and turning into stone, in certain springs, which turn things placed in them into stone. So it is said that Hungarian water is found, which, on account of vitriol in it, turns iron into copper. Indeed it is established by such capacities that waters are not simple elements but are made up of elements and it would be most valuable to possess the weights of all these waters of various capacities, so that from the difference of their weight in air and oil, we might make a close inference of their capacities.

ORATOR. So also concerning earth.

IDIOT. Yes, also concerning earth; since one kind is fertile another sterile, and in one we find stones and minerals, which are not found in another. It would therefore be very useful to know the various weights of different earths in water, air and oil, for the purpose of enquiring into their separate natures—so also from the difference of the weights of urines, wax, oils gums, aluminum, squills, leeks and all such weights. I think that the capacities they possess in different forms could in some way be found out.

ORATOR. These things could scarcely be written in a very large book.

IDIOT. Experimental science demands extensive treatises, for in proportion as these have been more numerous so much the more infallibly can the knowledge concerning experiments, which they bring to notice, be arrived at.

ORATOR. Perchance even the weight of air can sometimes be arrived at by acute conjectures.

IDIOT. If anyone were to hang a quantity of wool, dry and scorched, on one side of a large scale, and on the other side stones up to the same level, in a district and atmosphere of mild temperature, he would find that the air became moist, the weight of the wool would increase and that as the air inclined to dryness it would shrink. So by means of such variation he weighs the air and might make similar inferences concerning the changes of seasons. So should anyone wish to find out the varying strength of the sun in different climates, if from the more fertile fields of one as of the other climate he weighed a thousand grains of wheat or barley, from the difference of their weights he would find the varying strength of the sun; for, with a definite quantity and a field of equal fertility in any place you like, there could be no difference, save by reason of the sun. Thus indeed from the difference he would be able to seek after the strength of the sun in a region of mountains and of valleys, on the same line, East and West.

ORATOR. If anyone let fall a stone from a high tower, while water was flowing from a rigid opening into a basin, meanwhile weighing this water that flowed forth, and likewise did the same while a piece of wood of the same size was falling, could he not discover the weight of the air from the difference of the weights of the water relating to the wood and to the stone?

IDIOT. If anyone did this from different towers of equal height and at different times he might at length reach an inference. Still he would discover the weight of the air quicker through different forms of equal length. For instance, if I let fall a pound of lead in spherical form from a turret, and gathered up the water from the clock, and then let out a pound of similar lead of a broad shape, similarly gathering up the water, from the difference of the weights of the waters, the weight of the air would be found out. For we find that birds with wings spread out remain steadier, because they take up more air. So also in water a compact weight of spherical form sinks quicker than when extended into a square, and so by such a method the weight of air, and of water too, can be discovered, and conversely the different value of forms.

ORATOR. I have heard that the depth of the sea is sought by some such method.

IDIOT. It might be done with lead made into the image of an eight-day moon, with one horn heavier and the other lighter and upon the lighter should be hung a fruit or other light thing of similar nature, and after the lead had dragged the fruit to the bottom, first touching the earth with its heavier horn and then bending over, the fruit having been released from the horn would return to the surface. Knowledge would be obtained by using a similar lead and fruit in other water of known depth for from the different weights of water flowing out of a clock from the time the lead was cast forth to the return of the fruit (to the surface) in different waters the question is answered.

ORATOR. I believe that in such and other ways the depths of waters can be investigated. But tell me whether the speed of a ship's movement can thus be ascertained?

IDIOT. As how?

ORATOR. Why by throwing a fruit into the water from the bow, and letting water flow from a clock until the fruit has reached the stern, and then comparing the weights of the water at one and the other time.

IDIOT. Certainly by that or another method, as through the shooting forth and arrival of the ship like an arrow quicker or slower as compared with the water from the clock.

Orator. The knowledge of the power of works and engines seems able to be investigated relatively, through the flow of water from a clock from the moment when an arrow is shot diametrically upwards till it returns to earth, so long as the different engines have arrows of the same size.

Idiot. The power of bombarding engines certainly and of wind, so also of the rapid movements of men and animals and of their strength and anything similar that can be mentioned could be investigated by inference from experiments with scales and by the flow of water from a clock.

Orator. How can the power of a man be found out?

Idiot. You will see what weight, placed on one pan, a man can raise to a level with the empty pan by dragging down the latter. Then subtract the weight of this man from the weight he had pulled up and what remains of the heaviness of that article is proportionate to the power of the man.

Orator. So also the breath of a man can be weighed.

Idiot. There is one weight of a man drawing in and holding his breath and another of his breathing out, also one of a living man and another of a dead one; so also among all animals. Whence it is admirable to have registered these differences among diverse animals and diverse men and among men of diverse age, so that inference may be able to reach up to the weight of living breaths.

Orator. Cannot the heat and cold and drought and moisture of a season be sought by such a method?

Idiot. Certainly it can. For if you have marked the weight of water in a cold season, before it has frozen and afterwards, you will find it different. For when you see ice on the top of the water you will notice that it is lighter than the water. So according to the intensity of the cold the variation of its weight increases. So also, if in a hot season you have exposed water to air, the weight will vary according to the season. Or again, if you have weighed green wood, after some time you will have found its weight altered, and will realize from this the excess of heat and cold, as also of dampness and drought.

Orator. Cannot also the time of day be thus weighed?

Idiot. If you have taken the water flowing from a clock from sunrise to sunrise and have weighed it, and again have made it flow on another day from sunrise, by comparing this weight of the water which has flowed out, with the first weight, you will be able to learn the hour and time of day.

Orator. Perhaps also the time of year!

Idiot. Yes, if throughout the year from sunrise to sunset by means of the clock you have noted all the days, you will always be able to arrive inferentially both at the day of the month and the hour of the day; although on those days which have little variation in their brevity you will do it less surely than at other times.

Orator. I perceive that by such a system the motion of celestial bodies can be arrived at, as Nemroth is said to have done and Hisparthus to have described.

Idiot. You say right and it is granted that their work was done with assiduity and careful consideration. For if anyone, when he had noted a star set on the Meridian line, gathered the water flowing from a clock, until the star returned and did likewise in respect of the sun from sunrise to sunrise, he would discover the movement of the sun towards the East from the difference of the lesser weight of the water belonging to the movement of the star from the Meridian line till its return to the same, also the sun's movement from rise to rise. For in proportion as the movement were less, so would its weight compare with the weight of the entire circle.

The movement would be in connection with the equinoctial circle, not the zodiac, which is not marked over the poles of the earth, but its own. So if anyone wished to find out, by means of this same star, how far the sun had moved in 15 days, he could do it by this very method, from the varying distance of the sun's rise as compared with the situation of the star on the Meridian line.

For instance, if today the difference of the position of the star on the line from the rising of the sun was found by the clock to be in a certain proportion to the weight of the water of the entire revolution of the star, then in 15 days another proportion would be found, owing to the difference of the movement and always in connection with the Equinox.

ORATOR. Cannot motion in the Zodiac be found in this way?

IDIOT. It can certainly from the movement of the sun from midday to midday and from rise to rise and from rising to setting. For by these differences the declination of the Zodiac from the Equinoctial line can be traced.

ORATOR. What about the difference of motion which is said to take place from the Eccentric Circle?

IDIOT. This also will be found when during the year dissimilarity is found in the Zodiac on similar days. For the sun does not move from the Equinox in an equal number of days during the summer, it returns to the Equinox just as in winter, when it does so quicker for it will not be found to have traveled from the "Scales" to the "Ram" in just so many days as from the "Ram" to the "Scales." This difference would disclose the eccentric or small orbit of the different movement.

ORATOR. What about the size of the sun's body?

IDIOT. By the weight of the water that flows from a clock, from the beginning of the sun's rising on the Equinoctial line, till it is entirely over the horizon, as compared with the water of the star's revolution, the appearance of the size of the sun's mass is known in relation to its sphere. Nevertheless its size can be sought after by another method—namely solar eclipses.

ORATOR. How?

IDIOT. We find the moon's movement in the same way as the sun's. Then from its eclipse and movement through the shadow of the earth we seek the size of the moon, in line with the fickle shadow of the earth, and from these we infer its average proportion to be of a certain size in comparison with the earth. Then from the movement of the moon and the eclipse of the sun we seek the distance of the sun from the earth and its size by an acute calculation—though still by inference.

ORATOR. From these instances, which you have related, it seems that all differences of movements and eclipses of luminary bodies, indeed the advances, halts, retrogressions, movements in straight lines, movements away from the center, of all planets, can be arrived at from the same and unparalleled system of the scale and clock.

IDIOT. Yes indeed, you can, if you are sufficiently accurate in picking up the variations.

ORATOR. But what about the evidence of stars?

IDIOT. I think also that from the difference of the weights of water in one and another year, and by certain other differences of the weights of trees, herbs and grains of corn, coming fertility or decay can be more quickly inferred from past experiments than from the movements of stars. For if in March the weight of water, air and trees be found to be of a certain degree, fertility of the earth ensues; if otherwise barrenness or mean harvests. So also of wars, plague and all similar ordinary events. And this is the root of the matter when from these stars in succession we seek the evidence of stars, just as people seek the age of the moon from signs of the marrow in animals, fishes and crabs, from trees also and rushes, and its zone from the flow of the sea.

ORATOR. I have heard that from the flow and ebb of the Nile the Egyptians foresee what is going to happen during the year.

IDIOT. There is no country which if it directed attention to such investigations would not make discoveries, and in accordance with this system from the fatness of fishes and reptiles at the beginning of winter, we anticipate extreme and lengthy cold, against which keen-scented nature has made provision for the animals.

ORATOR. What of the questions asked by astrologers? Can a favorable reply be made to them all by your system?

IDIOT. Well, if not favorable, at all events some reply, I think, can be made. But by what method an inference can be drawn in respect to these questions, needs considerable investigation. Nor can the appropriate method be ascribed to scales, for he who is replying may perchance not be able to ascertain the weight of his reply, except from the weight of the question. And indeed the ardour for asking a question for the purpose of investigating some foresight of a future event seems to be misplaced. Possibly it does not appear whence the desire comes, just as if a man who feels something in his eye, which he does not see, looks for it from another point in order to see what is not there.

ORATOR. I think you indicate you would like replies to be sought for just as in the wheel of Pythagoras the method is handed down from the varying combination of the name of the mother asking the hour of the day and the light of the moon, or that one should sum up his inference as seers do from oracular responses, or by chance readings of books of the Sibyls, or from a stringed instrument, or houses, or geometrical figures, or the twitterings of birds, or the twirling flame of fire, or from reference to a third person, or some other casual intervention.

Idiot. There have been people who used indirectly to seek for an answer out of a conversation, which they were having with their questioner regarding new dispositions in the order of a country as though a sudden opinion would make itself known in lengthy discussions. For if their conversation inclined to sadness, so it was thought would be the issue of the matter; but if towards joy, joyful would be the result. But I, having regard to the face, beard, movement of the eyes, style of words and the prophecy of the weights of the subjects, which I make my questioner tell me in repeated forms, used to consider that by giving such attention opinions can be formed. Still they are worth more when they come from a man, who lights upon truth without previous consideration, in whom a certain foreseeing spirit seems to speak. Nevertheless I think it is not possible to make a trade of such a matter, nor can a man who has discernment communicate it, nor should a wise man have leisure for these things.

Orator. You speak excellently, for St. Augustine relates that there was a bibulous man in his time, to whom the thoughts of minds lay open and who used to detect thieves and brought other secrets to view, though strange to say he was most unstable and had very little sense.

Idiot. I know I myself have often related many things as the spirit gave me utterance and was almost ignorant of their reason. At length it appeared to me that a serious man ought not to speak without cause and I became more silent.

Orator. Well, after that it seems sufficient has been said concerning the movements of stars; something must now be added about music.

Idiot. Yes, in respect of music experiments by scale are most useful. For from the difference of the weights of two brass bells, sounding a tone together, it is known in what relation of harmony the tone consists. So also concerning the weight of shepherd's pipes, and the proportion of the amounts of water fitting the pipes is known,—*viz.:* Octave 5 notes, 4 notes and of all harmonies that can be made at all. So also from the weight of hammers, whose fall upon the anvil causes harmony of some description, and of drops falling from a rock into a pool, making various notes, and of flutes, and of all musical instruments, a system of considerable value is obtained by the scale.

Orator. So too of voices and songs.

Idiot. Yes, in general all concordant harmonies are traced out more accurately by weights. Indeed the weight of an instrument is peculiar to its harmony, a relation sprung from the varying combination of different things. Yes, friendships and enmities of animals and men of the same figure and manners and whatever of such a kind is weighed with regard to its concordant harmonies and contrary discords. So too the health of man is weighed as harmony, also his weakness, yea fickleness and seriousness, prudence and simplicity, and many such things, if attention is minutely directed towards them.

Orator. What do you think concerning geometry?

Idiot. I think the close proportions of circles and squares, and all others which concern the different capacities of figures, can be tested more appropriately through weights than any other way. For supposing you have made a pillar-shaped vessel of known diameter and height together with another cubic one of the same diameter and height, and have filled each with water and weighed them, their proportion will be known to you from the difference of the weights of the square in comparison with the circle to which it is assigned, and by this means a near inference can be formed of the circle squared and whatever else concerning this matter that you desire to know. So, if you have taken two wholly equal plates and have bent one into a circle to make a columnar vessel, and the other into a square for setting up a cubic vessel, and have filled these vessels with water, you will learn from the difference of their weights, the difference of the capacity of a circle and of a square of the same periphery. Thus if you have a number of such plates you will be able to form them into a triangle, a pentagon, a hexagon, and so investigate successively their various capacities. In like manner by weight you will be able to arrive at the knowledge of the capacities of vessels of any shape whatever, and how scales may be made as instruments for measuring and weighing, how one pound lifts up 1000 lbs. owing to its distance from the pivot and its varying way of descent, whether straighter or more curling, and how all the fine lines of ships and machines ought to be made. Whence I consider that this knowledge gained by experience of weights is most useful for all geometrical arts.

Orator. Now you have sufficiently explained the appropriate reasons for weights of things being taken on a balance, and registered one after another and over and over again. For it seems a book like that would be most useful and sought after among distinguished men, so that in different regions its contents may be authenticated and unified, that we may be led more easily to the knowledge of many things hitherto concealed from us. I certainly will not delay from hastening it in every respect.

Idiot. If you love me, be diligent—farewell—Thanks be to God.

The book of the layman concerning experiments with weights is finished, on the day of Fabian, 13th September.

Nicholas, Cardinal of St. Peter.

GUY PATIN AND THE MEDICAL PROFESSION IN PARIS IN THE SEVENTEENTH CENTURY

By FRANCIS R. PACKARD, M.D.

PHILADELPHIA, PA.

INTRODUCTION

THE formerly so-celebrated correspondence of Guy Patin, and even his name have fallen recently into such undeserved oblivion that it seems timely to the writer that an attempt should be made to revive interest in this famous old French worthy, whose letters written during a period of over forty years (1630–1672) give us such an invaluable picture of the life of the times, not only from the medical point of view but in all its aspects military, religious, political and courtly. As the great French critic, Sainte-Beuve, wrote of Patin's letters:

> One finds in these letters, bon mots, the news of the day, many curious details on the literature and learned men of the time, above all a lucid and natural manner, with free, bold traits, which point to the life, the mind, the genius of the author. It is a conversation without design, without pretention, often sportive. They are the confidences of one friend to another, full of crudity, of passion, sometimes of grossness, often of good sense, humor, and salt of every kind.

Guy did not write his letters for publication. The first edition was not published, fortunately for him, until he had been in his grave eleven years, and was consequently immune from the vengeance of those whom he so bitterly offended by the freedom of his language. It is to this that with all due allowance for his individual prejudices, which were violent and doubtless unreasonable, the great value of the correspondence is due, for he wrote of persons and events with a liberty, not to say license, which he would certainly not have dared use had he thought his letters would see the light of day, especially as the chief objects of his attacks were those high in place, such as Richelieu and Mazarin, or powerful organizations, such as the Jesuits, or the Apothecaries. He is equally caustic and personal in his remarks about many of the royal family and the nobility, and this at a time when such writings, if discovered, would have brought severe punishment on their author. Of the works of Patin which were intended for publication he himself says:[1]

> Posterity will forego my writings, likewise I have not much desire to leave any of them. There are two sorts of men who write, the wise and the fools, and I know myself to be neither the one nor the other. Furthermore the life that we lead at Paris is too agitated. The practice of our profession takes from us that tranquillity which it is necessary to have when one wishes to write for eternity.

Elsewhere[2] he urges Spon to make "*un beau* sacrifice to Vulcan, to burn his letters."

The formal writings of Guy Patin were not numerous and it must be confessed that their interest was mostly ephemeral. The list of them will be found in an appended bibliography, and if one will take the trouble to read such of them as are available, he will arise from their perusal with the conviction that Patin's fame must rest on his correspondence and not on such evidences of his erudition or medical skill as are contained in his professional writings.

This is not the sole instance in which an individual's posthumous fame has arisen on some other attribute than that to which he personally would have wished the greater importance attached.

Bayle, in his "Dictionnaire Biographique" warns that "it is necessary to read his letters with distrust because most of the political and literary anecdotes in them are false or ill-founded," and Voltaire says of them, "His collection of letters has been read with avidity because it contained new anecdotes which everybody loves, and satires which one loves even more. It serves to show how much contemporary authors who write precipitately the news of the day are unfaithful guides for history. Such news is so often false or disfigured by malignity, moreover this multitude of petty details is scarcely of value save to small minds."

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[1] Letter to Spon, November 8, 1658.

[2] Letter of January 8, 1650.

Ant. Masson ad viuum ping. et ſcul. 1670.

Mᵉ Guido Patin doctor medicus parisiensis medicus et professor Regius

(1602–1672)

These criticisms may be true as to the historic value of Patin's letters, nevertheless, as pictures of the life of the day they are invaluable and it must be remembered Guy did not purpose writing history when he penned them.

As occurs with all unauthorized or surreptitious publications the correspondence has undergone many vicissitudes in the various editions in which it has been preserved to us. Triaire,[3] in the preface to the edition which he undertook to publish in 1907 and which he intended to be complete and definitive, summarily reviews the many defects which appertain to each of them, He says:

The editors have not contented themselves with throwing aside at their convenience a considerable quantity of unpublished documents, but they have also not hesitated to suppress numerous passages in those which they have published. They have gone further yet and have not recoiled before alterations of the

Note. The engraving of Guy Patin appearing on this page is reprinted from the engraving which appeared in *Annals of Medical History*, Vol. I, No. 3, facing page 322.

[3] Lettres de Guy Patin, 1630–1672. Nouvelle Édition collectionée sur les Manuscrits Autographes, etc. Paris, 1907.

text, before falsification of the ideas of the author. They have altered his manuscript, replacing a strong and exact expression, such as he threw it from his pen, by a dull or insignificant word; modifying at their will entire passages, giving résumés of these passages instead of their complete text: attaching, after cutting out without limit, two or three letters together, or on the other hand dividing one letter into many and forging from the pieces patchworks more or less ingenious to supply the solutions of continuity which result from such actions. All the editions, of which the greater part are based on one another, reproduce the errors of their predecessors in adding to them faults of their own, not excepting the last, the only modern one, that of 1846, due to M. Réveillé-Parise.

After this severe arraignment M. Triaire relates the several efforts that have been made to collate the letters with the object of publishing a definitive edition. In 1760 M. Formy, perpetual secretary of the Academy of Berlin, conceived the project but for some reason not stated his plan aborted. In 1846 Réveillé-Parise published an edition at Paris in three volumes which claimed completeness and accuracy, but which Triaire following Sainte-Beuve condemns for inaccuracy and incompleteness.

In 1895 MM. de Montaiglon and Tamisey de la Roque had gathered together all the available letters with a mass of correlative information, notes, etc. when the entire collection was destroyed by fire.

Finally Triaire himself, undaunted by the failures of his predecessors, undertook the task and gave to the world in 1907 one volume of what he promised to make the long sought for definitive edition.

Unfortunately Triaire has only published one volume of his edition, and the correspondence contained in it contains only letters written up to March, 1649. He has arranged these letters consecutively, according to date, whereas Réveillé-Parise has collected the letters into groups according to the person to whom they were written. Triaire's arrangement is much preferable.

In 1911 Pierre Pic published a most delightful collection of selections from the correspondence[4] with a learned and interesting introduction, in which while admitting the great value of the "letters" from the historic and literary point of view he deprecates the style in which they are written and says that when Sainte-Beuve wrote his praise of them he seems not to have been struck by the "two principal defects of Patin, the eternal idle talk, and the ferocious scolding for all that which is not his personal opinion." Pic criticizes Patin's habit of interlarding his letters with Latin, which he says he does not do judiciously and correctly after the manner of Montaigne, but in a foolishly pedantic and often inaccurate way. For those who wish to read what is best of Patin and to acquire the real flavor of his "letters" there is no better edition of them than Pic's, which will certainly stimulate the reader to further researches on the author.

Triaire[5] states that:

> The original letters of Patin to the Belins of Troyes are contained in the manuscript inscribed at the Bibliothèque Nationale under the number, 9,538 (Fonds Français. Suppl. Français, 2,034, *bis*). This manuscript contains 175 letters addressed to Belin père et fils—of which one is not in the hand of the author but bears his signature; 28 letters to Spon, of which 5 have been likewise written by another pen but are signed by Patin; a letter without any address, but manifestly destined to Spon; and one addressed to Charpentier, physician of the Faculty of Paris. An inscription indicates that the manuscript came from the sale of M. Gay, of Lyons, in 1634. Pic[6] states that there is in the Library of the Faculté de Médecine in Paris a collection of 459 letters written by Patin to a number of foreign scientists, among whom he mentions Thomas Bartholin of Copenhagen, Meibomius and Van der Linden of Leyden, Scheffer of Frankfort, Gaspard Bauhin of Bâle, and Wolkhammer of Nuremberg. The letters are written

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[4] Guy Patin avec 74 portraits ou documents. Paris, G. Steinheil, 1911.

[5] Lettres de Gui Patin, Libraire Honoré Champion. Paris, 1907.

[6] Guy Patin.

in Latin and the earliest bears the date March 26, 1652, and the latest April 4, 1669. The letters in this collection are not the originals, but copies, some of them by Patin himself, others by his eldest son Robert, acting as his secretary. These letters remain unpublished.

Triaire[7] states there is a manuscript in the Library of Wiesbaden entitled "Borbonia ou singularités remarquables prises des conversations des Messieurs Nic. Bourbon et Guy Patin." It is accompanied by the following recommendations addressed by Patin to his son Charles:

> My son, I talk to you as though this was my testament. All these papers which you see here are a farrago, a potpourri in a heap without order, of a quantity of very various things that I have learned or heard spoken by one person or another; but the greater part comes of the talk which I have had during many years cum Viro Clarissimo et Doctissimo Nicolao Borbonio in the Oratory at Paris. There are some points very free and delicate as much of religion as of the government of princes. All that which I have said of the Jesuits, believe as very true but do not repeat it except very à propos. . . . I repeat and recommend you again, read (these papers) and burn them sooner than lend them to anyone.

Nicolas Bourbon, a canon of the Oratory in Paris, was a very learned man and a great friend of Patin's. He was the center of a learned circle which used to meet at the Oratory. Part of the above mentioned manuscript was published with the title "Borboniana."

A curious fact is that Pic transcribes a similar recommendation addressed by Patin to his son which he says precedes the unpublished letters in the Bibliothèque de la Faculté de Médecine. The latter collection was deposited at the École de Santé at Paris by Peyrihle in 1794. Triaire says that M. Ricci stated the Wiesbaden collection was there in 1907.

Is the Wiesbaden collection the original of which the letters at Paris are the contemporary copies by Patin and his son?

HISTORICAL INTRODUCTION

Patin's life covers a most interesting period in the history of France. He was born in 1601, and was a boy of nine when Henri IV was assassinated, and he died in 1672 when Louis XIV was at the height of his glory. In order to appreciate his letters and their bearing on current events we must comprehend somewhat of the great changes which took place in the social and political life of France in that period.

During the latter half of the sixteenth century France was torn asunder by the religious wars between the Catholics and the Huguenots. After Henri III was assassinated at Saint Cloud in 1589, there were five years more of bitter warfare before Henri IV succeeded in winning Paris "by a mass" and entered that city as King of France. At last civil peace was restored and under the wise and conservative government of the new king and his great minister Sully the internal wounds of France healed rapidly with the marvellous recuperative power which she has shown on so many different occasions in her history. A new era dawned. Men were at liberty to worship according to the dictates of their conscience, the Edict of Nantes promulgated by Henri IV in 1598 having granted the Huguenots freedom of worship. With peace came prosperity, growth of commerce and agriculture, with corresponding social and intellectual development. The murder of Henri IV, by the dagger of the monk Ravaillac on May 14, 1610, temporarily interrupted this happy state of affairs.

Henri IV was succeeded by his son Louis XIII, a boy of nine years. Until he should reach his majority the affairs of the kingdom were placed in the hands of the Queen Mother, Marie de' Medici, who was completely controlled by an Italian named Concini and his wife, Leonora Galigai, who had been Marie de' Medici's foster-sister. Possessed of rapacity and ambition they not only accumulated vast sums of money from the treasury, but Concini had himself made Marquis of

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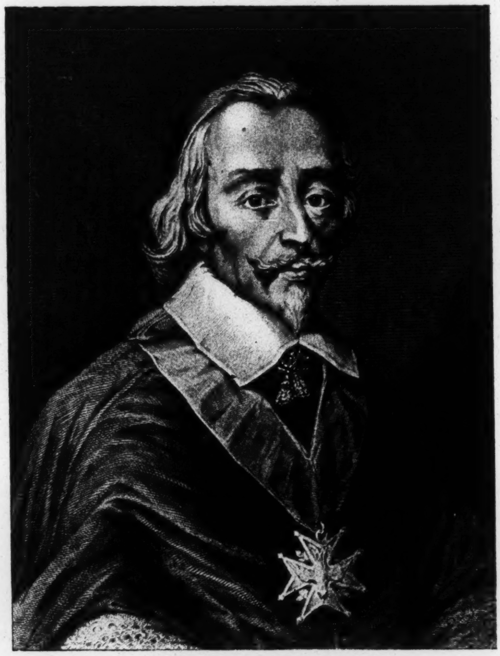
[7] Lettres de Guy Patin, p. 103.

Ancre, and although he had never been on a battlefield, Marshal of France. Sully was ignominiously dismissed from the council and the regulation of the affairs of the kingdom lay entirely in the hands of these unscrupulous Italians. Henri IV had accumulated in the royal treasury vast sums which the Queen Regent squandered in gifts on her favorites and in pensions on the leaders of the French nobility whom she endeavored to reconcile in this manner to the domination of Concini. Although she gave with a lavish hand it did not suffice to repress their discontent or political ambitions, and revolts broke out on several occasions which were with difficulty suppressed by the Queen Regent's bestowing enormous sums of money on the leaders, such as Condé, Mayenne, and de Rohan. In 1615, the young King married Anne of Austria. Finally in 1617, when Louis was sixteen years old, resenting the manner in which his mother and Concini excluded him from affairs and inspired by deep personal hatred of the latter, he entered into a conspiracy with his favorite de Luynes, a young man of small ability and little conscience, and Vitry, the Captain of his Guards. Concini was seized by Vitry as he was entering the Louvre and, as he resisted arrest, was instantly killed. His wife was arrested and accused of acquiring influence over the Queen by practicing sorcery. She was found guilty and beheaded and her body burned. Louis declared the regency at an end and placed de Luynes at the head of affairs, but the pride of the old French nobility rebelled against the overwhelming insolence and rapacity of this parvenu as much as it did against that of his predecessor, and they took arms to overthrow him. De Luynes died of a fever in 1621. After his death the Queen Mother, who had been exiled from the court to Blois, became reconciled with the King and with her return to court, Richelieu, whom she had first introduced into public affairs, came into power, and until his death in 1642 was the predominant influence in the affairs of France. To Patin he was the personification of all that was evil, and Patin was only one of many who hated the Cardinal and sought in many ways to accomplish his overthrow. Patin's hatred was partly personal, and as his passions or prejudices were violent in all things so his detestation of Richelieu's government may be largely traced to the fact that at the time of the conspiracy of Cinq Mars in 1642, Richelieu had executed as one of the conspirators, de Thou, the son of the historian, a great friend of Patin's. However that may be, Patin lets no opportunity slip for delivering himself of the bitterest diatribes against the Cardinal. It is very difficult to judge Richelieu with impartiality. Coming into power at a time when France was fast slipping into the old times of civil war, the great nobles all heading armed factions, he managed to weather the storms and finally place the real power where it belonged in the hands of the King. The Huguenots and Catholics maintained a condition of armed neutrality, and minor conflicts



Cardinal de Richelieu
(1585–1642)

occurred from time to time which kept up the smouldering enmity. The internal dissensions of France had weakened her standing with other nations, and her military strength was at the lowest ebb. In the few years since the death of Henri IV, agriculture and commerce had been again disturbed by civil commotions and the improvements and reforms instituted by Sully and his great master were neglected.

One of the first measures was to abase the growing power of the Huguenots. By the Edict of Nantes the Huguenots had been granted certain cities, among them La Rochelle. The latter they had converted into a powerful fortress, supported by a large fleet and army. Richelieu determined to suppress this focus of Protestanism. Taking advantage of an uprising of the Huguenots, Richelieu laid siege to La Rochelle, and after a siege of fifteen months he entered the town in triumph, thereby breaking the military power of the Huguenots in France for evermore. Their military power broken Richelieu treated the Protestants with an astonishing liberality, permitting them to hold their religious beliefs and services, to practice the liberal professions, and even to hold high offices in the army and navy and in political and civil life. Richelieu determined from an early day to check the power of the nobility. In 1626 the comte de Chalais having entered into a conspiracy with a number of others to dethrone Louis XIII and make his brother Gaston d'Orléans king, Richelieu arrested a number of the greatest persons at the Court. The comte de Chalais was beheaded, the duchesse de Chevreuse, the most intimate friend of the Queen, was exiled, some natural sons of Henri who had entered into the conspiracy were imprisoned in the Bastille, and the duc d' Orléans forced to make the most abject professions of loyalty. The most stringent edicts had been promulgated against duelling. They were set at defiance by the nobility until in 1627 when Richelieu had two nobles, the comte de Bouteville and the comte de Chapelle, executed at the Place de la Grève for fighting a duel. Even the Queen Mother, to whom Richelieu owed his start in power, had to succumb to the terrible Cardinal. In 1630 she persuaded Louis, by working on his fears and jealousy, to disgrace the Cardinal. The latter left the Court and the courtiers all hastened to the apartments of the Queen Mother to congratulate her and to ingratiate themselves. But the King repented in a few hours and Richelieu was recalled. The day was known subsequently as the Day of Dupes, but those who had deceived themselves were bitterly awakened to their error. The Queen Mother was sent away from the Court to Compiègne, whence she fled to Brussels, where she died in 1631. The *garde des sceaux*, Marillac, and his brother, who was a Marshal of France, were arrested. The *garde des sceaux* died in prison and the Marshal was beheaded. Bassompierre, the future Marshal of France, was put in the Bastille for twelve years. Gaston d'Orléans went to Brussels to join the Queen Mother. There they concocted a new rebellion in conjunction with the duc de Montmorenci. The royal forces defeated the army of the rebels at Castelnaudary in 1632. Gaston ran away, and the duc de Montmorenci was executed.

In 1642 the comte de Cinq Mars attempted a conspiracy to overthrow Richelieu. It has been suspected, though never proved, that the King was party to the plot. It was discovered and Cinq Mars with the other leaders executed. Thus Richelieu destroyed the last vestige of feudalism. The Fronde was only a phantom of the former uprisings of the nobility.

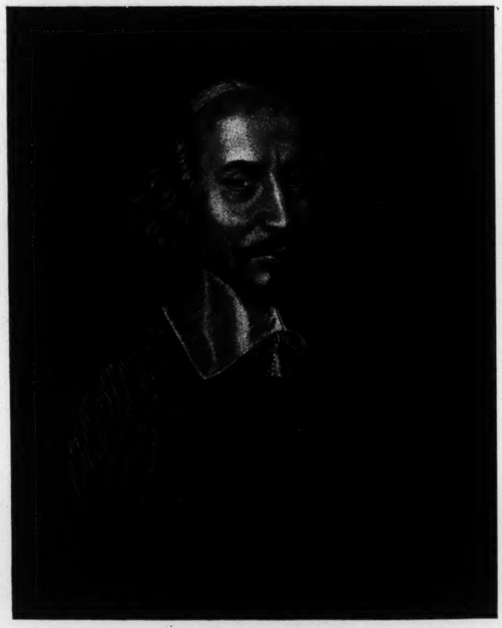
On December 1, 1642, to the savagely expressed joy of Patin, the Cardinal died.

Richelieu was fond of literature. He founded the Académie Française in 1635, and rebuilt the Sorbonne. He also established the royal printing press and the Jardin des Plantes, the latter being especially designed as an aid to medical science. Richelieu built and lived in the

Palais Royal, then known as the Palais Cardinal.

Louis XIII only survived his great minister about six months, dying on May 14, 1643. Once more the throne of France was left to an infant, Louis XIV, aged less than five years, with the regency in the hands of a Queen Mother, Anne of Austria, and strange to say with another Italian cardinal, Mazarin, as chief minister. Mazarin had been brought forward by Richelieu and proved a worthy pupil although undoubtedly not as able or great a man as his predecessor. There is much ground to believe that Mazarin was secretly married to Anne of Austria or at any rate was her lover.

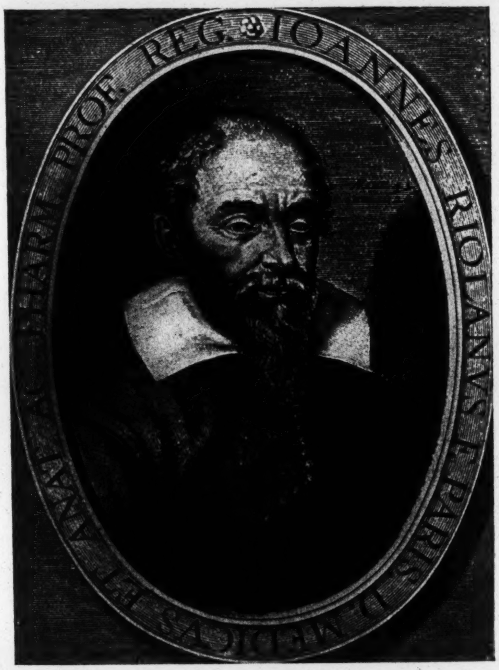
The early years of the new reign were marked by the victories of the great Condé and Turenne, over the Spaniards and Germans in the course of the Thirty Years' War, which dragged on its weary way from 1618 until the Peace of Westphalia in 1648, by which France secured possession of Alsace. The finances of the country were in a terrible condition at this time. The superintendent of finances, Particelli d'Esmery, was a corrupt Italian. His extravagance and venality necessitated the most onerous taxation. Mazarin was much more avaricious than Richelieu, amassing enormous wealth for himself and his relatives. Places at the court and government positions, as well as in the army and navy, were openly sold, and we can read in Patin's letters the way in which positions in the medical service of the court were sold to the highest bidder, regardless of merit. Mazarin either got all, or a large part of most of the bargains thus made. The Parlement of Paris had become a center of opposition to the corruption and venality of the court. Mazarin resolved in August, 1648, to break the opposition by seizing three of the members who had taken the most active part. They were named de Blancmesnil, Broussel, and Charton. The last named ran away, de Blancmesnil was easily taken prisoner, but when some guards had put Broussel in a coach to carry him off, a clamor was raised and the population of Paris rose in revolt. The Parlement of Paris marched to the Louvre followed by an immense mob. After a brief show of resistance the Court yielded and the arrested magistrates were released.



CARDINAL MAZARIN
(1602–1661)

This insurrection and that of the Fronde which developed immediately afterwards were fomented largely by the activity of Paul Gondi later Cardinal de Retz, the coadjutor to the Archbishop of Paris. He was intelligent, wealthy, unscrupulous, and above all a demagogue. Mazarin and the Queen Mother determined at the first auspicious moment to renew the fight, when they felt themselves in a stronger position. Accordingly, in February, 1649, the Queen Mother, with the King and Mazarin, left Paris and went to Saint-Germain, where the prince de Condé, always known as le Grand Condé in French history because of his illustrious military services, took command of the troops which remained loyal, and war was declared on the Parlement of Paris and the rebellious populace. Many of the nobility hastened to Paris to take part with the people, among them the prince de Conti, younger brother of the Great Condé, the duc de Longueville, the duc de Bouillon, and the duc de Beaufort. The latter, a grandson of Henri IV, had received the nickname of the *roi des halles*, or king of the markets, because of his popularity with the market women of Paris and the lowest class of the people. He was very handsome, with affable manners but absolutely devoid of capacity. The prince de Conti was chosen commander of the peoples' army. The coadjutor de Retz displayed the most feverish activity in stirring up the rebellion and maintaining the spirits of the party. He raised a regiment of cavalry which was dubbed in ridicule the regiment of Corinth because cardinal de Retz was titular bishop of Corinth. This civil war on a small scale received the name of the Fronde because of a game which was very popular with the children of that epoch in France. It consisted of throwing stones at one another by means of an instrument like a slingshot, made of a piece of leather between two strings. The police having forbidden this amusement the boys were in the habit of using their weapons on the officers who chased them. Hence those who were opposed to the authorities received the name of Frondeurs.

The so-called war, as Voltaire says, would have been entirely ridiculous had it not been participated in by a king of France, and the Great Condé, and involved the capital of the kingdom. The peoples' troops made many sorties from Paris, which were uniformly repulsed. On their return they would be hooted and jeered at by their fellow-citizens for whose cause they had gone forth to fight. The Parlement having ordered that each house having a porte cochère should furnish a man and a horse to the service, the cavalry raised by the city in this way was known as the cavalry of the portes cochères. The popular cause suffered because the nobility who had attached themselves to it were not animated by any real desire to further it, but only by selfish ambition and vanity coupled with personal hatred of the Cardinal and Queen Mother. The contemporary revolution in England succeeded because the men who participated in it were united in an earnest resolve to correct abuses. In France though the abuses existed there was a lack of unity among the groups of the peoples' party which, coupled with the unscrupulous ambition and levity of those who were chosen as its leaders, soon led to its disintegration. Some of the nobility actually attempted to negotiate with Spain, then at war with France, for aid against the Mazarinists, as they preferred to designate their antagonists. It must be remembered that the Parlement of Paris was not at all similar to the institution bearing the name parliament in England. In France the term "parlement" was applied to bodies which existed at Paris, Bordeaux and elsewhere in France, composed of lawyers and prominent bourgeois of the several districts in which they were constituted. They were not only legislative but also judicial bodies. The Parlement of Paris awoke to a realization that their cause was being betrayed by the nobility. Condé had wisely refrained from any serious attack on the city of Paris, contenting himself with merely repulsing the irregular militia which sallied from time to time from its walls. The Parlement entered into negotiations with the King's party and a convention was soon signed by which the King granted certain concessions, and Paris opened its gates in April, 1649, for the return of the court. As usual the great nobles who had participated on the popular side were easily brought over to the King by the bestowal of money and places. The reconciliation was of short duration. The Great Condé offended Mazarin and the Queen Mother by constantly reminding them that they owed their return to power to him, and he alienated the Parlement and bourgeois by the contempt with which he uniformly treated them. In January, 1650, Mazarin arrested Condé, his brother, the prince de Conti and the duc de Longueville and put them in prison at Vincennes. At first this arrest of the leaders of both factions seemed to please the fickle populace, but the arrogance of Mazarin soon reunited the two factions against him, and instigated by Gondi, to whom Mazarin had promised a cardinal's hat but had not fulfilled his promise, the Fronde rushed into a new revolt. This time they achieved a temporary success, forcing the Queen Mother in February, 1651, to liberate Condé, Conti and de Longueville, and to exile Mazarin from France. Mazarin went to Cologne but from that city continued to influence the Queen Regent. Gondi at last secured the long desired cardinal's hat, but the Great Condé was dissatisfied with the result of the revolt. He was liberated from prison but instead of finding himself at the head of affairs he soon realized that Mazarin yet controlled them from his place of exile, by his power over the Queen Mother. This great soldier then became a traitor. He entered into a treaty with the Spaniards and raised an armed force against the King. Mazarin was hastily summoned back to Paris by Anne of Austria and the great General Turenne was given command of the royal troops. At first Condé was successful. The Court fled from Paris. Finally both the royal army under Turenne, and the rebel army under Condé approached Paris, each demanding that the city open its gates to them. The Parisians refused entrée to both. Gaston, duc d'Orléans, with his daughter the famous Mademoiselle, and the Cardinal de Retz were in the city. The royal troops and the rebels fought a battle in the Faubourg Saint-Antoine, and Mademoiselle ordered the cannon of the Bastille to fire on the royal troops, and the gates of the city to be opened to Condé's army. The latter entered the city, but finding he could not hold it retired and led his army to join the Spanish troops in Flanders. The party of the King and Mazarin triumphed. The Cardinal was more powerful and arrogant than ever. The duc d'Orléans was exiled to Blois, de Retz was imprisoned, Condé sentenced to death for contumacy, and a royal edict forbade the Parlement henceforth to attempt any interference in affairs of state or finance. The war with Spain was carried on. Mazarin entered into an alliance with Oliver Cromwell, the Protestant ruler who had beheaded the king whose wife was the daughter of Henri IV. Peace was finally made in 1659. As part of its terms Condé was pardoned and Louis XIV married the Infanta Marie Thérèse.


IOANNES RIOLANVS F. PARIS. D. MEDICVS ET ANAT. AC PHARM. PROF. REG.

Jean Riolan, the Younger
(1577–1657)

Mazarin was as bitterly hated by Patin as Richelieu had been. He inveighs against his arrogance, his avarice, and the way in which he provided for the welfare of his family at the expense of France. Even the splendid library founded by Mazarin for the use of men of letters, of which Patin's friend Gabriel Naudé was librarian and the establishment of the College of the Four Nations, at the University of Paris, designed to provide for scholars from Spain, Italy, Germany and the Low Countries, could not make Patin see any good in this *chaperon* *rouge*, and the letters express nothing but hatred and contempt towards him. Mazarin died on March 9, 1661.

The last decade of Patin's life corresponds with the first ten years of the personal reign of Louis XIV. While Mazarin lived he was the dominant power in the kingdom, but after his death Louis could truthfully state "l'état, c'est moi." One of the earliest manifestations of his desire for absolute control was the disgrace of Fouquet.[8] Fouquet as minister of finance, though a man of superior ability, had thrown the finances into extreme disorder, by reckless extravagance. He had accumulated an immense personal fortune. In 1661 he gave a magnificent fête to the King at his superb château de Vaux, the glories of which outshone those of the royal palaces. The King was angered at the display, but it was probably only the culmination of his discontent at the minister against whom Colbert had for some time been animating the King's suspicions. A few weeks later in September, 1661, Fouquet was arrested. His trial continued for three years. At the end he was found guilty. Nine judges wished him executed, thirteen were for imprisonment for life. Fouquet had been a great patron of letters, La Fontaine, Pellisson, Mademoiselle de Scudéry, and Madame de Sévigné all owed much to his patronage and have defended his memory. His place was given to Colbert, under whose able administration was finally grouped not only the finances, but also the direction of the beaux-arts, agriculture, commerce, public works, and the navy. Patin naturally sympathized with Fouquet. He termed Colbert a "man of marble" and could see no good in one of the greatest of the great ministers of Louis XIV.

Another man who contributed much to the glory of the reign of the *roi soleil* was Louvois, his minister of war. He was the first to ordain a distinctive military uniform for the different units of the army; to introduce the use of the bayonet attached to the musket; to organize magazines for the storage of powder, arms and munitions in different places whence they could be readily distributed in case of need, and he organized the army into special divisions: cavalry, artillery, infantry, and subdivided these into special bodies trained for their various duties: dragoons, hussards, grenadiers, fusileers, etc. He also established a special corps of engineers and first brought into use portable pontoon bridges, and he was the first to arrange for camps of manoeuvre in times of peace. Under Louvois, the great military engineer Vauban constructed the fortifications along the frontier which for so many generations held the external enemies of France in check. Vauban was

Abrah. Vanden Tempel.
L. Cossinus sculp.
Et Pacita et Patiens
Hoc vno apparet, quod tu mirabere vultu,
Græcus, Romanus, Belgicus, Hippocrates.
GVIDO PATIN. Doct: Med:
Paris et Prof. Regius
Lut. Paris. 29, April. 1667

JOHANNES ANTONIUS VAN DER LINDEN
(1609–1664)

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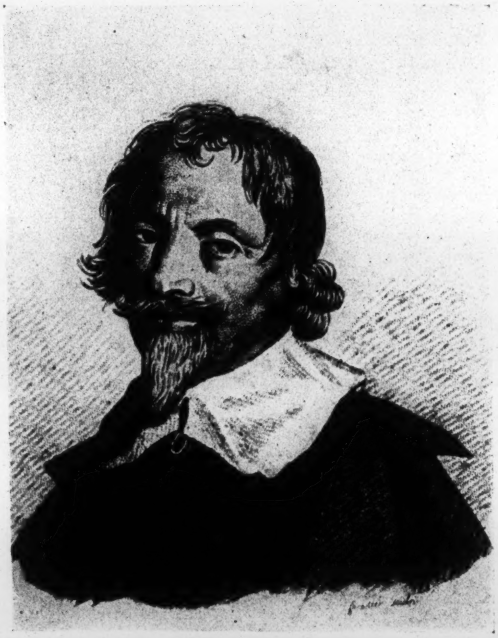
[8] Those who are readers of Dumas will recall the Vicomte de Bragelonne, in which romance the disgrace of Fouquet forms the principal theme. The Letters of Madame de Sévigné contain much information about his trial.

the greatest master of fortification and of the construction of siege works and his ideas and inventions completely changed the methods of making war.

To the military successes of Louis XIV, Colbert contributed greatly by his able administration of the navy. Mazarin had left this important arm in a deplorable condition. Colbert built up a wonderful merchant marine and used it as a feeder for the establishment of a navy which soon rendered France a formidable power at sea. He brought foreign shipbuilders to work on the construction of new warships, and built huge yards at various ports. Schools of navigation, of hydrography, and of naval warfare were established. Rank in the navy was established in order to attract men of birth and intelligence, and an *inscription maritime* or naval reserve was organized among the maritime population. In external affairs the glory of France was equally well maintained by an able minister, de Pionne, who died in 1671, the year before Patin's death. Spain was in decadence which the ambition of Philip II had begun. Italy was constantly at war. Germany was in the same chaotic condition and Austria so weak that she was obliged to appeal for aid to repel the menaces of the Turks. England had just restored the Stuarts. Holland was the richest and actually the most menacing of the rival countries, chiefly because of its naval power. Louis XIV availed himself skilfully of the weaknesses of her neighbors to aggrandize France. Though Patin speaks contemptuously of many of the acts by which Louis supported his policy and achieved his objects their success was obvious, and until 1685, the year of the Revocation of the Edict of Nantes, the prosperity of France and the glory of its King steadily increased.



Gabriel Naudé
(1600–1653)

In 1665 Philip IV of Spain died, leaving a son Charles II, who was the issue of a second marriage. When Louis XIV was married to Marie Thérèse, Philip's daughter by his first wife, in 1659, it had been stipulated that she should renounce her rights of succession to the Spanish crown and in lieu thereof the Spanish government was to give her a dot of 5,000,000 gold écus. Mazarin calculated that Spain would be unable or unwilling to pay this immense sum and that the way would thus be paved for the French to claim the succession. When Philip died in 1665, the dot not having been paid, Louis XIV at once claimed for his wife her rights of succession in the Low Countries, also asserting that as his wife was a minor at the time of her marriage her father had no right to renounce her succession in her name. Upon the refusal of the Spanish government to comply with his demand Louis invaded Flanders in 1667. Its conquest was easy. Town after town yielded. Holland alarmed at this success formed an alliance with England and Sweden, and Louis decided not to proceed further in his triumphal career. The treaty of Aix-la-Chapelle was concluded with Spain in 1668. Louis was bitterly offended by the action of Holland and determined to be avenged on the bourgeois commonwealth. By a large bribe he seduced the Swedes from the alliance. His brother Philippe d'Orléans who was a very worthless individual had married Henrietta, the sister of Charles II, who was known by the official title of Madame. She was chosen to negotiate with Charles II in 1670 and soon succeeded in persuading and bribing her brother to abandon the Hollanders and enter into an alliance with the French King. On her return to the French court Madame died suddenly. Suspicions of poisoning were at once aroused but they were certainly groundless. Bossuet preached a famous sermon in her honor. The neutrality or aid of the Emperor and the various petty potentates of Germany was secured, and the way being thus prepared, in the spring of 1672 France declared war on Holland. Although the French won great military successes at its outset, this war was the beginning of the misfortunes which darkened the last years of the reign of Louis XIV. Within a few years England and most of his other allies had abandoned him. New alliances were formed to combat his overweening ambition. Against Prince Eugene and Marlborough the French armies sustained a series of terrible defeats. The Prince of Orange, his most determined foe, became King of England and the old French King saw the splendor of his reign sink in an obscuring twilight. By the Revocation of the Edict of Nantes in 1685 France lost 500,000 of her best citizens, and much of her commercial prosperity. Patin died in the spring of 1672 just at the dawning of evil times. During his life he had witnessed the gradual emergence of France from the chaos of the Fronde to the firm although despotic government of an absolute monarch. His letters give many illuminating reflections of the stirring events of which he lived in the very center and many of the chief actors whom he knew. It would have been hard for him to write without bias, and though the pictures he paints are somewhat lurid, they are certainly honest representations of events as he saw them from day to day. Patin was an ardent student of philosophy and theology and his letters are full of information about the Jansenist controversy and the many other disputes with which the learned of the seventeenth century filled so many volumes now condemned to oblivion. It would seem that in his later days the bitterness of political squabbles had been replaced by the odium theologicum. Although he was a vigorous opponent of the dominant party, hating the Jesuits and denouncing monks on every possible occasion he nevertheless managed not to make himself conspicuous enough to undergo any persecution for his opinions, and he apparently died in the Roman Catholic faith and was certainly buried according to its rites.

FRANÇOIS GUÉNAULT
(15—-1667)

FAMILY AND EDUCATION

As he signed himself frequently "Bellovacensis" (of Beauvais) many writers assert that Patin was a native of that city. Réveillé-Parise says he was born at La Place, a small hamlet in the commune of

Hodenc-en-Bray in which the Patin family held a fief from time immemorial, and in 1898 the municipality of La Place erected a monument to his memory. In a letter to Spon,[9] June 14, 1644, Patin himself says that his natal place was a village three leagues from Beauvais, in Picardy, named "Houdan" which was the name borne by Hodenc-en-Bray until 1770, and according to Triaire, Guy Patin was born there at the Ferme des Préaux, on Friday, August 31, 1601.

His family was typical of the best type of bourgeois. Patin states that he had traced it back for 300 years, during which period some had been notaries at Beauvais, some linen merchants at Paris, some soldiers and others farmers. Patin's grandfather was a soldier "comme tout ce temps-la fut de guerre." His father François had studied law at Orleans and Bourges and would have practiced his profession at Paris had it not been for the death of Henri III, and the siege of Paris which followed thereon. He must have been a Huguenot sympathizer because he was made a prisoner by the Leaguers and had to pay a large ransom to secure his release. Guy says that his grandmother had to pledge her wedding jewelry and a belt of silver with a goldsmith at Beauvais to raise the money and that many times he had heard her tell about it, "weeping and detesting the misfortunes of those times."

Patin inherited his parent's hatred for the Guises. The League had been formed by their adherents and they aimed at procuring for their family the succession to the throne, either by the deposition of Henri III, or, if not by successful rebellion, in the event of his death, as he had no direct heirs and Henri de Navarre, the nearest in the succession was a Huguenot. Henri III forestalled the plans of the Guises and their League by the murder of the duc Henri de Guise and his brother the Cardinal. The duc de Guise was known by the nickname Balafré, the scarred, because of a huge cicatrix which disfigured his face. Patin writes Spon (December 24, 1658):

> M. de Guise-le-Balafré said formerly:
>
> By war we gain
> Credit and money
>
> He was the duc de Guise who was chief of the League and who Henri III by a wise and generous council caused to be killed at Blois, in the year 1588, on Christmas Eve. My late father, who hated the League and the Leaguers, said when I was yet young, that this massacre was the best coup that this king made in his life.

Gaspard D'Auxy, Seigneur de Monçeaux and Baron de Houdan, recognizing the honesty and ability of François Patin persuaded him to give up his career at the Paris bar and come back to Picardy to manage the business affairs of his family and estate. He made Patin many generous promises which Guy says he did not fulfill. The great man did procure for his man of affairs a virtuous and well to do wife of good family, Claude Manessier, having in mind thereby to fix him in the neighborhood and keep him away from Paris; otherwise Guy says he was ungrateful and avaricious and that he ruined what would otherwise have been the very successful career of the elder Patin at Paris.

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[9] Charles Spon was born at Lyons, December 15, 1609. His grandfather was a native of Ulm in Suabia, who had settled in commerce at Lyons. Charles was sent to Ulm when twelve years old to study belles lettres. In 1625 he left Ulm for Paris where he studied philosophy, mathematics, astronomy and medicine, but he received his M.D. at Montpellier in 1632. He practiced a short time at Pont-de-Vesle but went to Lyons where he settled in 1635. He acquired a great reputation, so much so that Cousinot, premier médecin of Louis XIV, sent him in 1645 the appointment of médecin du roi par quartier, as a recognition of his merit. He died at Lyons, February 21, 1684. Spon was a great Latin and Greek scholar. He published the "Prognostics of Hippocrates" in Latin verse in 1661, entitled "Sybilla Medica," and dedicated it to Gui Patin. He also composed a myology in Latin verse but it was only published posthumously by Manget in his Bibliothèque anatomique. He edited Schenkius' "Observations Medicae" in 1644, and Cardan's "Opera," in ten volumes folio, in 1663.

Patin in a letter to Falconet (July 15, 1661) gives another version of the reason his father left Paris. He writes, "My father and mother were good people, who retired to the country to get away from the evil (malice) of Paris, where they lived *ex avito fundulo* until they died."

The Patins had seven children, five daughters and two sons. Guy's brother settled himself in Holland, and the five daughters all married and established themselves with the inheritance of their mother's money. The regret of the father at his own mistaken step, led him to the determination that Guy should fare better.

For this reason he began his son's education at a very early age, one of the steps he took being to cause his son to read Plutarch's "Lives" aloud while he would correct his pronunciation. At the age of nine years he placed him in the Collège at Beauvais, and afterwards sent him to the Collège de Boncourt in Paris, where the boy was two years a pensionnaire, taking the course in philosophy. An offer of a benefice was made to Patin, by some of the nobility. To accept this it was necessary for him to become a priest which he refused to do, thereby greatly angering his mother who did not overcome her resentment for five years, although his father approved his course. A friend of his advised him to study medicine and he did so at Paris from 1622 to 1627 when he received his degree, at which, as he tells us, his mother, as well as his father, was well pleased and helped in the purchase of books and other necessary expenses. Bayle states on the authority of Drélincourt that Patin eked out a living in Paris, while pursuing his studies, by proof-reading; and there is a tradition that the anonymous friend who, Patin says, urged him to study medicine was Riolan, the anatomist of Paris, who is chiefly remembered for the bitterness with which he fought against Harvey's demonstration of the circulation, though Patin does not refer to him in any way in his autobiographical letter to Spon, in which, from its character, one would think he would have mentioned so great an influence in his life.

This statement is also made in "Naudeana et Patiniana:"

> By a fatality too common to men of letters he was compelled to become a proof-reader after having received his degree. On seeing some of his corrections, M. Riolan, the celebrated physician, who was regarded among his confrères as the arbiter of reputations, bestowed on him his esteem and friendship, and introduced him to the world.

MEDICAL EDUCATION IN PARIS

The "Letters," as would be expected, are full of references to medical education as it prevailed in the University of Paris. As Minivielle[10] emphasizes, the teaching consisted entirely in the exposition of the works of Hippocrates, Galen and the lesser ancients. There was no attempt at clinical instruction; and medical learning, as manifested by the professors, consisted solely in a display of great erudition in the texts of Greek and Latin authors. In order to enter on the study of medicine in the Faculté de Médecine at the Université de Paris, it was necessary first to possess the degree of Master of Arts or else have studied philosophy for at least two years, and then there were three steps to the degree, that of bachelor, licentiate and finally doctor. After two years study in medicine, if the scholar was twenty-two years old, he could take his examination for his bachelorship. He had to produce first a certificate of good conduct from three physicians, to declare that he belonged to the Catholic Church, and to swear on the Bible that he would be present at the masses said before the Faculté de Médecine. After these formalities were complied with he was questioned during three days on the studies he had pursued and then had to comment on an aphorism of Hippocrates. If he succeeded in passing this ordeal he took an oath that he would defend the decrees, practices, customs and statutes of the Faculty; that he would show respect and honor to the Dean and all the Masters of the Faculty; that he would defend the Faculty against whosoever would undertake anything against its statutes or honor, and above all against those who practiced medicine illegally; and that he would be present in his robes at all the masses ordered by the Faculty, arriving before the end of the Epistle and remaining until the end of the service, and that he would attend the masses for the dead, and the funerals of the Masters (professors) under penalty of a gold crown for failure to do so. Minivielle, whose delightful little book contains the most explicit account of the life of the medical student at Paris in the sixteenth century, states that after having thus been admitted a bachelor in medicine, the student passed the next two years in sustaining theses, studying, sometimes visiting sick persons with the masters, with an occasional opportunity to witness an anatomical demonstration on the human body.

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[10] La médecine au temps d'Henri IV.

The bachelors in medicine had to sustain certain theses in public, or as we would now term it, undergo public examinations on medical subjects. These were of two kinds, the *thèse quodlibétaire*, which might be chosen from any subject in medicine or physiology, on which the candidate was questioned from six in the morning until noon, by nine doctors, the examination being conducted entirely in Latin, and the *thèse cardinale*, so called after the Cardinal d'Estouteville, who instituted it in 1452, at the time when he was engaged in reforming the teaching at the University of Paris. The *thèse cardinale* was sustained by the candidate for licence in much the same manner as the other, but its subject had to appertain to hygiene. Minivielle quotes some of the bizarre and absurd topics utilized as subjects for the theses, such as: "Was the cure of Tobias by the gall of the fish natural?" "Is it salutary to inebriate oneself once a month?" "Are beautiful women more apt to bear children?" "What think you of the saying *in vino veritas*?"

Guy Patin's first *thèse quodlibétaire* sustained December 19, 1624, had for its title "Estne feminae in virum mutatio a ἀςύυχτος?" which he wisely decided in the negative. On November 27, 1625, he took the negative side in a thesis having for its proposition "An praegnanti periculosè laboranti abortus?"

On March 26, 1626, for his cardinal thesis he chose for his subject "Daturne certum graviditatis indicium ex urina?" again taking the negative side. Pierre Pic[11] remarks that contrary to the usual practice Guy concludes for the negative in each of his three theses and speculates whether this was not an indication of his character, which was already contradictory.

The first thesis at which Patin presided was that of G. Joudouyn, December 16, 1627, entitled "Utrum μηγρομανια balneum?" (Are baths useful in uteromania?). Patin is said to have suggested the subject to Joudouyn because of the case of a young girl whom he had attended and who it is said her mother wished him to marry. (Letter to Falconet, September 19, 1659.)

At first the theses were written and presented in manuscript to the Dean of the Faculté de Médecine, but toward the end of the sixteenth century the students began to have them printed and as we all know the custom of printing the theses for the doctorate has continued to the present time in France.

After two years passed in this manner, the bachelors presented themselves for examination for the licentiate. Each candidate had to present himself before the docteurs-regents of the Faculté, at the doctor's home, where he was privately examined by that worthy. Then the Faculté would hold a meeting at which a secret ballot was cast by its members, as to whether the candidate should be licensed. If successful he did not at once receive the full licence but was first admitted to the ranks of the licentiandes. These happy ones formed a procession and preceded by the beadles of the Faculté, rendered a ceremonial visit to the official bodies in Paris, that is to the members of the Parlement of Paris, the ministers of state, the prevost of the merchants and the aldermen, requesting their presence at the solemn ceremony which marked the actual bestowal of the license on those who had passed their examinations. This ceremony of the "Paranymph" derived its name from the ancient Greek marriage custom in which a young man, the best man of the bridegroom, always conducted the latter to the residence of the newly-wedded pair. In this ceremony of the Faculté, the bridegroom was the licentiate, the bride, the Faculté de Médecine and the paranymph was the Dean who united the licentiate in solemn wedlock to the Faculté de Médecine. Some days later there was another grand ceremony in the hall of the Archbishop's palace in Paris, at which the Chancellor of the Faculté de Médecine, who was a canon of the Archdiocese of Paris, gave them the benediction of the church, and afterwards all those present assisted at a grand mass at Notre Dame.

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[11] Guy Patin.

After having become a licentiate, the young man was authorized to practice and teach medicine, but in order to obtain a vote in the deliberations of the Faculté it was necessary for him to go yet further and secure the degree of Doctor of Medicine. This required a further investigation into the learning and morals of the candidate and he had to sustain another thesis, the *vesperie*. Two doctors of the Faculté propounded a question to be discussed by the candidate with them. If he passed this ordeal successfully, the last act of his career as a medical student took place in the grand hall of the École de Médecine, when he received the square bonnet worn by the doctors of the Faculté.

THE FACULTÉ DE MÉDECINE

To be a member of the Faculté de Médecine de Paris was to Guy the *ne plus ultra* in human affairs. The jealousy with which he guarded the prerogatives of its members was manifested from the time when he first was admitted to its ranks. In Patin's time the question of precedence loomed large in daily life and gave rise to innumerable squabbles. He tells Falconet (November 5, 1649) of one in which he was engaged early in his professional career:

> I remember twenty-three years ago, I being a young doctor and not yet married, I was asked to carry the canopy (le ciel) in a procession of the Holy Sacrement, the day of the grand-fête, which they celebrate here with all sorts of solemnities. I knew about how much I should be esteemed and also how my colleagues had acted in like case. Being by them incited to do this I promised them I would on condition that in my quality of docteur-régent of the Faculté, I should have the first place, not ceding it to any but counsellors of the sovereign court. This was promised me, but when I came to take it, with my scarlet cape, as we are clad when we pass doctors (receive the degree), dispute, or preside (at meetings) or when we attend the funeral of one of our colleagues, two men wished to have the first place before me, of which one was *conseiller aux monnaies*, the other *secrétaire du roi*. I alleged that it was due me. All the notables of the parish who were gathered for the procession, assembled at once, among them old M. Séguin, premier médecin de la reine, who died Dean of our company, January 27, 1648, who said in my favor that I was as great a doctor as he in our Faculté and in Paris. There was also a counsellor of the court, some masters of accounts, and an old advocate, who awarded me the precedence. Those who lost against me gave way at once, out of respect, they said, for the procession, but they grumbled that I should precede them.[12]

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[12] Voltaire in "Le Siècle de Louis XIV," speaking of the spirit of discord which prevailed in France at the end of the reign of Louis XIII, says that it prevailed throughout the kingdom, extending from the court and Paris to the smallest communes and parishes, in which processions fought one another for the honor of their banners. Often the canons of Notre Dame came to actual fisticuffs with those of Sainte-Chapelle, the Parlement of Paris and the Chambre des Comptes fought one another for precedence actually inside the church of Notre Dame the day that Louis XIII placed his kingdom under the protection of the Virgin Mary, August 5, 1638.

In order to form a just conception of Guy Patin's life and letters some knowledge of the institution about which his whole life centered and which absorbed the greatest part of his energies is absolutely essential. The life interest of Patin was centered in the Faculté de Médecine de Paris. Many men devote their lives to a cause, some to a person and not a few to an institution. The latter was avowedly and determinately the case with Patin. From first to last in almost all of the numerous letters which have been preserved to us, he refers to it or to matters connected with it. The preservation of its rights and privileges, the admission of only those whom he considered worthy to its ranks, the expulsion of those who had proved themselves unworthy of its fellowship, the election of suitable officers to guide its policies, the increase of its authority and wealth and the extension of its usefulness, occupied his mind almost as an obsession. No praise was too fulsome for those who furthered its cause and no abuse too savage for those who dared to attack it. As many of its peculiar attributes brought the Faculté into relation with public men and matters, a very general interest is attached to the life and letters of Patin from the light thrown by them on various political, economic, and social concerns in France during his lifetime, and accordingly his letters, in addition to their personal characteristics afford a mine of information to the student of French social history during the seventeenth century. The teaching of medicine at Paris was for a long time in the hands of the ecclesiastics, and there was no distinct Faculté or Collège for that purpose at the University of Paris until 1281. From that date the École or Faculté de Médecine forms an entity, and had its own corporate existence in the university body.

Wickersheimer[13] in his most interesting book on the history of medicine in France in the sixteenth century writes of the changes of location the college underwent as it grew in importance with the increase of its students, and gradually eclipsed its ancient rival, the Medical School of Montpellier. At the present time all that remains to recall its former locality to those who search for its traces is to be found in the names still retained by some of the small streets remaining on the left bank of the Seine, near the Pont St. Michel, the rue de La Bûcherie, the rue de Fouarre, etc., the latter so called from the straw on which the students used to sit. Yet the grand buildings of the present Medical School and its adjuncts are in the immediate neighborhood, and in walking through the rue des Écoles or some of the other new streets, we can realize that for eight hundred years the region has been the home of successive generations of medical teachers and students, and some of the old buildings, such as the church of Saint Severin or the church of Saint Julien-le-Pauvre, though in such a changed environment, remain as monuments of the historic past. In former times religious observations formed a prominent part in the life of the medical school at Paris. It was pre-eminently Catholic, losing no opportunity to express its devotion to the Faith, expelling from its ranks those suspected of heresy, and during the wars of the League recognizing, under the name of Charles x, the old Cardinal of Bourbon as King of France in opposition to Henri iv. There were many church services which both teachers and students were bound to attend.

The term, Faculté de Médecine, did not imply a few professors or teachers of medicine, but a corporate body of physicians under the control of which was placed the medical teaching of the University, and the control of the practice of medicine in the city of Paris. There were similar faculties elsewhere in France, at Montpellier, Bordeaux, Toulouse, Orleans, Bourges, and many other cities, all possessing locally the same privileges as regarded the exercise of their profession.

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[13] La Médecine et les Médecins en France à 'époque de la Renaissance, Paris, 1916.

The most aged member of the Faculté, known as the Ancient, became solely by nature of his age, an object of respectful veneration on the part of his colleagues. He received double the usual amount of fees or honoraria due to members of the Faculté on the occasion of examinations or other functions, and in case of the incapacity of the Dean from any cause, the Ancient had the right to convoke an assembly of the doctors. The executive chief of the Faculté was the Doyen or Dean, elected for a term of two years. This was a busy and important position. Besides presiding at the meetings of the Faculté, he was present at examinations of students for the various degrees and the readings of the theses. The Dean likewise presided at the examination of those who presented themselves for the right to practice as surgeons and apothecaries, over both of which bodies the Faculté de Médecine had control, and he inspected at intervals the shops of all the apothecaries in Paris to ascertain that they obeyed the laws regulating their traffic and that the drugs, they kept and sold, were pure. He had control of the financial affairs of the Faculté, was the guardian of its seal, and especially of its interests when the Parlement of Paris or any other court or power attempted to infringe its rights. As Dean he was one of the governing body of the University and also a member of the Parlement of Paris.

Upon the death of a King of France the Ancient and the Dean were both required to attend the autopsy on the defunct, and likewise his funeral, clad in their official robes of scarlet with caps of the same color.

The title of docteur-régent, which Littré in his dictionary says applied to one who instructed publicly, appertained to all members of the Faculté, and until 1505 the function of teaching was performed by any member who felt called upon to do so. In 1505 two teaching chairs were established, and thenceforth many of the docteurs-régents never actually taught classes, although the professors only held the chairs for two years at a time and all members of the Faculté were eligible for election if they desired to become candidates. All the docteurs-régents continued to take part in the examinations and readings of the theses.

The greatest honor which could befall a physician of the Faculté de Médecine de Paris was to be elected its Dean, and this honor fell to the lot of Patin on two occasions, it being the practically invariable custom to re-elect a Dean at the end of his first term. Although Patin, in the years before the choice fell on him, assumes to belittle the position and pretends that it is an honor which he does not desire, it is easy to see from the change in his tone, after elevation to the position, that it had long been an object of ambition for him.

In a letter to Spon, November 24, 1642, Patin relates how near he came to being chosen. The election of a dean was quite a complicated affair. One was held every two years, on the first Saturday after All Saints' Day. The Faculté met in solemn conclave. The Dean whose term was ending read a report of the period during which he had held office. The names of all the doctors present were then written on separate ballots, and those of the junior doctors deposited in one urn, and those of the senior doctors in anothor. The Dean shook the ballots up and then drew two from among the juniors, and three from among the seniors. The five doctors thus chosen by lot took an oath to designate the most worthy for the position of Dean. They retired to the Chapel, where they chose three names by a majority vote, two seniors and one junior. Three tickets bearing these names were placed in a hat and the Dean drew one of them from it, and the happy owner of it became Dean for the ensuing two years. Patin tells Spon that his name "danced in the hat" with those of Messieurs Perreau and de la Vigne but that "the lot is always contrary to me," and Monsieur de la Vigne won the election. Writing to Belin, fils,[14] November 16, 1652, Patin says that he has sent him the jeton, or medal, struck by order of the Faculté in honor of his decanate. These jetons were always struck to commemorate the elevation of a Dean of the Faculty. In the ANNALS OF MEDICAL HISTORY, Volume 1, Number 2, a number of them including that of Patin, are reproduced from the numismatic collection of the Army Medical Library at Washington, with a most interesting description of them by Dr. Albert Alleman.

Patin writes to Falconet (June 28, 1652):

> The custom is to put the arms of the Dean on one side and those of the Faculté on the other. I have retained the latter, but instead of putting those of my family which are gules with a gold chevron, accompanied by two gold stars *en chef*, and a hand pointing in gold, I have put my portrait. The engraver skilful as he is, has not caught the resemblance very well, especially the eye, but there is no remedy.

Patin's greatest object in life was the preservation and if possible extension of the privileges and authority of the Faculté de Médecine de Paris. Page after page of his correspondence is devoted to this theme and he constantly speaks with pride, in his letters to the Belins at Troyes, to Spon at Lyons, or to other doctors in the provinces, of the glory of the Faculté and of the proofs which it gives; from time to time of its strength in its various contests with the apothecaries, the surgeons or other enemies who strove to encroach on its perogatives. Thus he writes in February, 1558, that he has seen in the coffers of the Faculté, a royal decree entitled "Nouvelle confirmation de l'an 1132." He adds a disquisition on the powers possessed by the Dean, he is "the master of the schools, he has all the keys; fourteen handsome registers, all the records, and all the money, of which he renders an exact account every year, he is *vindex disciplinae et custos legum.* Our statutes call him *caput Facultatis.*"

He consoles himself for his defeat, by the reflection that the honor is accompanied by "a very heavy and very difficult responsibility." Writing to Falconet, November 4, 1650, he says: "I have been an elector many times, I have even been chosen and put in the hat three times, and each of the three I have remained at the bottom of the hat, and if ever they put me in it again, I shall not be vexed to remain there."

The lot finally proved favorable to Patin and on November 5, 1650, he was elected Dean. Although he affects to speak somewhat deprecatingly at times, saying, "I have already enough business without this," nevertheless, much more frequently his pride in the position pours forth. On December 1, 1650, he gave the customary banquet to the members of the Faculté, and he writes to Falconet the next day that thirty-six of his colleagues had enjoyed his hospitality:

> I never saw so much laughing and drinking by serious men, and even our ancients; it was the best wine of Bordeaux which I had chosen for the feast. I entertained them in my chamber where, over the hangings were displayed the pictures of Erasmus, the two Scaligers, father and son, Casaubon, Muret, Montaigne, Charron, Grotius, Heinsius, Saumaise, Fernel, de Thou, and our good friend M. G. Naudé, librarian of Mazarin . . . there were yet three other portraits of excellent men, of the late M. de Sales, bishop of Geneva, M., the bishop de Bellay, my good friend; Justus Lipsius, and finally François Rabelais, for which one has offered to give me twenty pistoles. What say you to this assemblage? Were not my guests in good company?

Writing to Spon (March 6, 1656):

> When I shall receive your picture I will put it in a good place with Fernel, Ellain, Duport, Seguin, Marescot, Nicolas Piètre, the late M. Riolan, André du Laurens, the late M. Gassendi, Salmassius, Heinsius, Grotius, Naudaeus, Muret, Buchanan, the two Scaligers, Lipsius,

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[14] The Belins, with whom Patin corresponded, were a father and son each named Claude who practiced medicine at Troyes, where there were also several other physicians of the same family. Their names are preserved solely in the correspondence of Patin.

Thuanus (de Thou), Crassot, Passerat, Campanella, Fra Paolo Sarpi, Casaubon, the Chancellor de l'Hospital, P. Charron, Michel de Montaigne; the French author otherwise called Rabelais, the divine Erasmus, etc.[15]

In a letter quoted above, writing to Belin, fils, January 14, 1651, Patin says:

> I will tell you that our Faculté made me Dean the fifth of last November, a charge to which I had been elected and named four other times; it is difficult and takes much time, but it is honorable. . . . My wife says there is much good fortune for the end of the year, her husband, Dean, her eldest son, doctor, and a good house which she greatly wished for.

Patin's pride in the Faculté de Médecine is well expressed in a letter[16] in which he says:

> All individual men die, but associations do not die. The most powerful man since one hundred years in Europe without being a crowned head, was the Cardinal Richelieu. He made the whole earth tremble, he caused terror at Rome; he treated rudely and shook the King of Spain, and nevertheless he was not able to make us receive into our company the two sons of the Gazetteer (Renaudot) who were licensed but who will not be doctors for a long time.

No one could have had a higher idea of the powers of the Dean than Patin and once, at least, he got himself into trouble by an undue exercise of them. Doctor Pic gives the story with some additional information supplied by the researches of his friend, M. Delalain. Jean Chartier, a docteur-régent, published without the approval of the Faculté de Médecine, a book on antimony. Patin removed his name from the list of docteurs-régents, and Chartier appealed to Parlement for reinstatement. The court of the Parlement rendered its judgment, July 15, 1653, in favor of Chartier and ordered that he should be reinstated as docteur-régent; that Patin should pay him 48 livres parisis in amend; all the expenses of his reinstatement, and two-thirds of the costs of the trial, the other one-third to be paid by the other docteurs-régents, Germain Hureau, and Daniel Arbinet, who had acted with Patin in the matter; and these three were enjoined from any act or word interfering with Chartier in the future enjoyment of the rights and privileges of his position in the Faculté.

He tells Belin he has a copy of all the names and surnames of the licentiates and doctors according to their order of passing at the École de Paris for more than three centuries, with all the memorable events in the Faculté. In a letter to Belin, fils, January, 1651, he tells of a book written by M. Moreau, "De Antiquitate Facultatis Medicae Parisiensis," which is not yet published and he fears will not be because of the ill health of Moreau, but which would be very curious and beautiful. He tried to secure all the biographical details possible about the lives of those who had been physicians at Paris. He writes to Spon (December 30, 1650): "There is scarcely a bachelor or a licentiate, much less a doctor of our schools for upward of three hundred years of whom I cannot tell something, even if only a little."

In a letter of the same date (December 30, 1650) to Falconet he tells him how he had received some of the old registers of the Faculté which had disappeared.

> An honest friend of mine, knowing that I had been elected Dean of our Faculté in the place of M. Jean Piètre, the 5th of last November, has replaced in my hands an old register of our Schools, an abridged letter almost Gothic, from the year 1390, in which is noted every two years the number of doctors and of licentiates.
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> Those of the doctors are sometimes 15, 20, 25, going even to 40. I lent it to M. Riolan who found in it the mention of an honest man who left by will a manuscript of Galen which he had, *de usu partium*. This legacy dates from the year 1009, and is of further consequence because it proves against those who would doubt it, that in that year and before it, there was a Faculté de Médecine at Paris.

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[15] Pic publishes as an addendum to his Guy Patin the pictures of all those who figured in Patin's gallery.

[16] Letter to Spon, December 6, 1644.

A curious feature in the medical life of the seventeenth century can be found in a study of the family relationship which prevailed among the great men of the profession, constituting veritable dynasties, in whose hands were held the great preferments and choicest clientele. The Riolans, Piètres, Moreaus, Séguins and many others might be adduced as interesting instances.

Jean Riolan, the elder, transmitted his fame and position to his son Jean. The elder Riolan's wife was Anne Piètre, daughter of the first Simon Piètre. Charles Bouvard, first physician to Louis XIII and superintendent of the Jardin des Plantes, was a brother-in-law of Riolan, and Bouvard's daughter married Jacques Cousinot, first physician to Louis XIV. Thus it will be seen that Bouvard, the Riolans and Cousinot were connected with the Piètres, the most prominent medical family in Paris for a period of many years. The first of the family of Piètre to become prominent in medical affairs was Simon Piètre (1525–1584). He was a Huguenot, and his life was saved during the Massacre of St. Bartholomew by his son-in-law Riolan, who concealed him in the abbey of St. Victor. In spite of his religion he was made physician to Charles IX by Catherine de' Medici. Curiously, Ambroise Paré, also accused of Huguenotism (perhaps secretly a Huguenot) was also favored by Catherine and was first surgeon to Charles IX. The first Simon Piètre's son, also named Simon (1565–1618) married the daughter of the celebrated physician Marescot. He succeeded Gourmelen, the infamous enemy of Ambroise Paré, as professor of medicine at the Collège Royal. Two of the brothers Nicolas and Jean Piètre were also physicians in good practice at Paris. There were five doctors of the same family who figured largely in the medical profession at Paris during the seventeenth century under the name of Akakia, a Greek version of their real family name, Sans-Malice. One of them, Martin Akakia, was a brother-in-law of one of the Séguins and succeeded him as Professeur du Roi at Paris. Patin says that he resigned his chair in 1655, after having held it for many years without daring to give a public lecture.

There were also three or four Moreaus and equal numbers of Séguins who shared or transmitted their various dignities among one another.

Whatever may be thought of the narrowness or ultra-conservatism of the Facultéde Médecin in Patin's time it should in justice be conceded that it attempted to place medical education on a higher plane. Patin writes to Belin (July 29, 1654) that, though in some cities anyone who claimed to have a medical degree could settle and practice medicine, yet in Paris and in some other cities those who wished to practice had to undergo an examination to ascertain their abilities no matter from whence they had graduated, "and this rigor is not without benefit for the purpose of remedying the abuse which follows upon many of the little universities and even of the larger ones sometimes giving doctors' degrees too easily for money."

In spite of the fact that Patin never became, in the strict sense of the term, one of the physicians to the court, his letters are very full of reference to medical matters connected with the court, and of the tales of those physicians whom the king delighted to honor.

From the tone of many of these, one cannot but feel that there was considerable personal animus and chagrin at his exclusion from their midst, but it is impossible to imagine Guy in the rôle of a courtier, and in the long run perhaps it was as well for his happiness that he did not achieve court distinction. In order that some of the references in his letters may be rendered less obscure, it is as well to pause for a moment to glance at the organization of the court physicians, that we may realize some of the responsibilities and emoluments incumbent on them.

The medical service at the court of France during the seventeenth century was organized on the same lavish scale as all the other services of the Maison du Roi. Positions in it were eagerly sought after and were frequently sold for very high prices. Thus Patin writes Spon (May 3, 1650) that Séguin who had seven years before paid Guillemeau 50,000 livres for the succession to his place as médecin ordinaire du roi, had in turn sold the succession to de la Chambre for 22,000 écus, and he writes to Falconet (July 5, 1652) of the death of Vautier.

> He (Vautier) was premier médecin du roi and the last of the kingdom in capacity, and in order that you should know that he is not dead without cause, he took antimony thrice, that he might die in his method, by the consent and advice of Guénault. If he had died seven years ago he would have saved the lives of many honest men who have been killed by his antimony. At length he is dead himself aged fifty-three years. As he was reported to be very ignorant even at Court he wished to have the reputation of possessing chemical secrets and of excelling in the preparation of antimony. Some courtiers applauded him or seemed to do so. The authority of his charge sustained his credit. He said among other things that the physicians of Paris were right to say that antimony was a poison, but that as he prepared it, it was not; nevertheless this good preparation failed him. It is a place vacant for which Cardinal Mazarin expects (*cherche*) three thousand pistoles, there is one of my colleagues who says that they have offered it to Guénault at that price, but that he refused it, but that he believes that Valot will give them. Thus all is for sale, even to the health of the king which is a very bad example.

At the head of the medical service there was the premier médecin, the first physician to the king. He was one of the grand officers of the crown, a member of the council of state, and enobled by virtue of his position, bearing a coat of arms. He received a large salary and many perquisites, such as we know Fernel, physician to Henri II received at the birth of each of the children of his royal master. Of course, in consequence of his office, he was sure of a large clientele among the nobility. He had authority over all the physicians, surgeons, apothecaries, dentists, etc., who aided him in guarding the health of the royal person, judging as to their qualifications for their respective appointments, and assuring himself that they fulfilled their duties properly. He was required to be in attendance each morning when the king arose, and to exercise an active supervision over the king's diet and regimen. If the king was ill the first physician had chief care of the case and direction of its management, presiding at all consultations and carefully observing the results of the medicines or remedies administered to him. It was his duty to accompany the king on any journey he might make, and he had to take up his residence at whatever château or place the court might lodge.

Associated with him were eight physicians in ordinary, or as they were generally termed, physicians by quarter, because of the division of their terms of service in attendance by quarters of the year. Two of them were required to be in attendance at the court for three months in each year. During that time they slept near the king, attended the rising and retirement of the king, and were present at his meals. The constant supervision of the meat and drink of the king was necessary not only in order to see that it was properly prepared, but also to guard against the danger of an attempt to poison the monarch.

There were many instances of the appointment of additional physicians to the king. These received their appointments generally by their successful management of some patient belonging to the royal family, rarely because of any especially distinguished standing in the profession. Undoubtedly many of the court physicians owed their positions to some lucky chance or to the backing of influential friends, while on the other hand, many were appointed because by their merit they had obtained a reputation for skill. Thus Ambroise Paré's appointment as chief surgeon was due to the recognition of his skill by those whom he had treated in the wars.

Patin tells Belin, October 28, 1631, that Senelles, one of the king's physicians had been tried for casting a horoscope of the king and predicting his death. He and another of the king's physicians, Duval, who was concerned with him in the matter, were sentenced to the galleys for life and their property confiscated.

Again writing to him in 1655, he says that Louis XIV is ill at Fontainebleau with a continued fever, he has been bled from the arms and one foot. The fever developed after he had been taken by his physicians to drink the waters at Forges.

> God knows for what reason they should make a young prince of seventeen years drink those lye waters when in a state of good health as was the king. It is long since, that princes have been unfortunate in their physicians. I wish with all my heart that God sends him good health, and that they do not give him antimony. Note that in all the court there is not a good physician.

Writing again (March 14, 1657) he reiterates his views:

> The great are unfortunate in their physicians. The chief part of the court physicians are ignorant or charlatans, and often both the one and other.

The premier chirurgien or first surgeon to the king, was assisted by eight surgeons in ordinary, or by quarter. His office was subordinate to that of the premier médecin, and his duties not quite so onerous.

The court physician had no easy task. Louis XIV would not let Fagon use the word "order" (*ordonnance*) when prescribing for him, and Louis XV reprimanded his physician when he told him "it was necessary" (*il faut*) that he should do or take something. When Senac was appointed médecin du roi in 1752, he had Fizes appointed to the position of physician to the duc d'Orléans which he had previously held. Senac gave Fizes some advice as to the behavior he should adopt towards his noble patient:

> I told him to approach his patient gravely, to feel his pulse, make him put out his tongue, gaze seriously in the basin (urinal or else bowl in which the blood had been drawn); not to speak, but to shroud himself in his peruke, and remain thus a moment with his eyes closed, then to give his orders, and go away without thinking to make his reverence. Instead of that, my imbecile jabbered like a magpie; he talked politics and literature, saying, "Your serene highness" every minute. He only got what he merited, and that is what should happen to all those who do not listen to their elders. Fizes was discharged within a month after he had been appointed.

Mazarin had had his favorite Valot appointed médecin du roi, when the King was sick with a malarial fever, possibly typhoid. In 1655, Patin writes Spon (October 19, 1655):

> The Queen has refused Valot permission to bring physicians to Fontainebleau to consult with him, and treat the king. He had named A. Daquin and Veson to her. She answered in anger: "I doubt the choice which you would make. These are fine physicians for the King! I do not agree with you. I wish to have Guénault who treated him once when he had smallpox." Guénault was sent for and is there. One holds that Valot is in danger of being discharged, although he has not yet touched any money since the three years that he payed to enter there; at least he is in great danger of it if the Cardinal does not maintain him and put him back in the good graces of the King and Queen, with whom he stands very badly.

Molière's epigram on the death of Henrietta Maria, the Queen of England, sister of Louis XIII, under the care of Valot might be recalled:

Le croiriez vous, race future,
Que la fille du grand Henri
Eut en mourant même aventure
Que fut son père et son mari?
Tous trois sont morts par assasin,
Ravaillac, Cromwell, médecin;
Henri, d'un coup de baionette,
Charles fini sur son billot,
Et maintenant meure Henriette,
Par l'ignorance de Valot.

HOME LIFE

Patin soon achieved sufficient practice to give him a very comfortable position in life. He speaks with pardonable pride of his possessions. Writing to Belin, May 1, 1630, he says, "I have in this city two things of which I can boast, good books and good friends, which are at your service." And again writing to Belin, fils, in January, 1651, he states:

> Furthermore I have purchased a fine house, in which I have dwelt now for three days. It is situated in the Place du Chevalier du Guet, *en belle vue*, and away from noise. . . . I have a fine, large, vast study in which I hope to place my 10,000 books by adding to it a little chamber which is on the same floor. My friends say I am the best lodged man in Paris.

He writes to both Spon and Falconet about his removal to his new house but dwells chiefly on the pleasure it gives him to have his books so well lodged. He describes the arrangement of his study in a letter to Falconet (April 24, 1651):

> I assure you it is beautiful. I have put on the mantle of the chimney a beautiful picture of a crucifix which a painter that I had had cut (from stone) and gave me in 1627. On either side of the good God are both of us, the master and the mistress; under the crucifix the portraits of Erasmus and J. Scaliger. . . . Besides the ornaments which are on my chimney, there is in the middle of my library a large beam, which passes from one end to the other on which there are on one side and the other a dozen pictures of illustrious men, having thus plenty of light from the opposed windows, so that I am in good company with good illumination.

In a letter to Spon (June 13, 1644) Patin says that five years after receiving his doctors' degree he took a wife "from whom I will have in direct succession 20,000 écus, her father and mother yet living but very old, with one collateral (relative) a sister who has no children and is very rich. God has blessed my alliance with four sons, to wit Robert, Charles, Pierrot and François."

The book-lover Patin complains to Belin, September, 1646, that it has been necessary for him to make three journeys from Paris, one into Beauce, one to Rouen, and another into Normandy.

> However-so-much I love the sedentary life and not to go away from Paris, because of my books. If I did not know myself well I would say of myself what an old surgeon of Paris said of himself "that he was persecuted by too much practice because he was too skillful a man." . . . These journeys were as displeasing to me as they were necessary for those for whom I made them, and they moreover were extremely incommoding to me.

Patin also owned a country house of which he wrote Belin, fils, July 5, 1651, "My wife and children are in the country at three leagues from here, in a handsome house, which I bought for fifteen thousand livres."

LITERARY INTERESTS

Patin's intense interest in the history and literature of his profession is manifest throughout all his life. He begins his correspondence with Belin (in 1630, aged twenty-nine) by telling him that he is trying to make a collection of all the theses read at the medical school in Paris and asks him for copies of those which he could not obtain at Paris and thought Belin might have at Troyes, written by Belin's contemporaries at Paris.

Patin had also the most lively interest in general literature. In 1637 there was published an edition of the Latin addresses pronounced by Jean Passerat, one of the authors of the "Satire Ménippée" and professor of eloquence and Latin poetry in the Collège Royal, with a preface by Guy Patin. In addition to writing to his friends the news about all the latest medical books and editions, he writes of works on law, theology, philosophy, literature and history, rejoicing in new editions of Vossius, Lipsius, Casaubon, Scaliger, Grotius, etc.

In 1668 Patin published the "Apologia pro Galeno," written by Gaspard Hoffman, who died in 1648. Patin purchased the manuscript after Hoffman's death. He dedicated the book to his friend President Lamoignon.

Patin not only collected and read books but he was an active factor in stimulating the publication of new works and of new editions of those which were difficult to obtain or which in his opinion were suitable for republication in improved form. With this object in view he is constantly importing books from Holland, Germany or Italy, lending rare manuscripts or tomes to publishers, and writing to procure such material from sources where he thought it might be obtained. And his zeal extended to other fields than those of his profession. Thus we find him writing April 1, 1657, to M. de Tournes, a book-seller, offering his aid in publishing various books. Writing to Belin, August 2, 1640, "If ever you come across the Volume of Epistles by Erasmus in folio, the thickness of three big fingers (because there are others that are smaller), purchase it boldly; it is a book worth its weight in gold." Patin contemplated getting out a work on practice of his own, a "Methodus" or manual, and wrote to Spon (July 13, 1649) about the plan he proposed to follow, but which he never carried out.

In writing to Belin, November 4, 1631, Patin speaking of the last edition of Paré's works, says, "The Paré of the last impression, well bound, costs eight livres, without any rebate. It is augmented in this last (edition) by a new treatise on fevers, which has been added at the end of the book, and is written by a physician *intus et in cute mihi noto*, without having put his name to it, which is very good." Triaire believes it very probable, that the anonymous physician, whose "name was very good" and whom Patin knew so well, was none other than Guy himself.

Writing to Spon (June 11, 1649) Patin after stating that Paré had decried the use of unicorn's horn and other "Arabesque remedies, adds, "Do not think of rejecting the opinion of Paré under cover that he was only a surgeon. The author of his book was a learned physician of Paris, named Master Jean Hautin (Altinus), who died here, one of our ancients, in the year 1615." This repeats an accusation made by Le Paulmier, Riolan and others that the works appearing under the name of Paré were not really written by the Father of French surgery, but by others. Malgaigne[17] in the Introduction to his definitive edition of the writings of Paré has proved convincingly the falsity of such statements, and shown beyond cavil that Paré never put forth a line of which he was not the veritable author. Patin possibly was mislead by his admiration for Riolan to share the views which the animosity of the latter towards Paré, caused him to propagate.

RELIGIOUS BELIEF

Patin translated into Latin and published with notes the works of André du Laurens (1538–1609), premier physician to Marie de' Medici, and after the death of Marescot, to Henri IV.

Patin was not openly a Huguenot but had strong sympathies with them and he was certainly not a very strict Catholic. He read many Huguenot works on theology. He frequently expresses admiration for Arnauld and other Jansenists. Thus he writes Spon (March 3, 1656): "The Jansenists are badly and iniquitously treated by the Sorbonne which I impute to the injustice of the age and the impiety which prevails, and also to the too great power of the Loyolists who are their powerful enemies." Writing to Belin, October 28, 1631, he says, "In our Christian religion I believe as we all should believe, many things that we do not see . . . but it is by means of the faith which obliges us to; . . . but in medicine I believe only that which I see."

Writing to Belin, fils, apropos of the Dutch and their wars he says, "But the Pope and the Jesuits will never fail to arouse a war against those men, who will not believe in Purgatory, nor purchase from them indulgences, medals, blessed grains and other spiritual bijoux." He writes several times in 1660 that he is anxiously awaiting a book of Huguenot theses which is being published at Genoa. He also refers several times in the same year to a Latin translation of the Bible made in England with notes by Calvin, Beza, and other Huguenots. Yet he tells Belin, February 7, 1648, that he belongs to the Parish of Saint-Germain-l'Auxerrois and he was interred in that church after his death. He refers sympathetically to the Huguenots who were massacred in Savoy in several places.

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[17] Oeuvres Complètes d'Ambroise Paré. Paris, 1840.

He writes a confession of faith to Belin, July 18, 1642:

> I put no credence or belief in possessions, nor in sorcerers, nor miracles that I neither see nor discern. I believe all that is contained in the New Testament, as an article of faith, but I will not give like authority to all the legends of the monks, *fabulosis et commentitiis narrationibus Loyolitarum,* who in the romances which they send us from the Indies, say things as impertinent and as untrue as the fables of Æsop. You would say that these men worked only to infatuate the world. It is true that if we were all wise, these master pharisees of Christianity would be in danger of soon dying of hunger, *Credo in Deum Christum crucifixum, etc. de minimis non curat practor.* Deception, horrible thing, altogether unworthy of an honest man, but it is even worse when it is mixed in and employed in religious affairs, *Christus ipse, qui veritas est, non indiget mendacio.* I cannot put up with the stinking falsehoods which the monks retail to the world to authorize their cabal, and it astonishes me greatly, *imo serio irascor,* that they have so much credit.

A friend of Spon who met Patin at Paris thought he was an ecclesiastic. Patin writes to Spon (January 24, 1651):

> I pray you to salute M. Sarrazin on my part and tell him that I am much vexed that he should have taken me for a priest, seeing that I am not and never shall be one, and even that I had not wished to be in spite of the efforts of my mother, and that I have often praised God that he did not make me a woman, a priest, a Turk or a Jew.

Patin was a great admirer of Jansen and of Arnauld. He speaks of their writings in terms of the highest esteem and condemns in unmitigated terms on many occasions the persecution which they suffered at the hands of the ecclesiastical authorities.

Patin was greatly delighted with the "Provincial Letters" (Lettres Provinciales) of Pascal. They appeared in 1656 and created a great sensation. Their circulation was prohibited, but Guy writes Spon that he will send them to him and tells him what rage and consternation they have created among the Jesuits. Patin writes repeatedly of the massacres of the Protestants of Vaudois, speaking of them as "the poor Huguenots," and stating several times his joy at hearing that Cromwell had interfered on their behalf and proposed to demand the punishment of those who had instigated and conducted the massacres.

He writes to Spon (January 19, 1656):

> The pest is yet very bad at Rome, but it spares the pope and the cardinals. Perhaps it is because it thinks they are more evil than it. Nevertheless thirty-six good and wise physicians are dead, and it is they whom I regret. The pope and the cardinals never lack. There are always enough of them.

Also (November 18, 1659): "If the pest took only monks, generals of orders, and especially the general of the Jesuits, I think Christianity would hardly lose."

Patin's narrative of the so-called "Miracles of Port Royal" is very amusing. A niece of Pascal's suffered from a lachrymal fistula and according to the Port Royalists, was cured by the application of a thorn which had been one of those in the Crown of Thorns. The miraculous cure was certified by four physicians, Bouvard, Hamon, and the two sons of Patin's old enemy Renaudot. Patin laughs at the whole affair in a letter to Spon (November 7, 1656) saying it was put forth as counterblast to the many miracles claimed by the Jesuits. He adds:

Some have asked me my opinion. I answered it was perhaps a miracle that God had permitted to Port Royal to console those poor people that one calls Jansenists, who for three years have been persecuted by the pope, the Jesuits, the Sorbonne, and the greater part of the deputies of the clergy, also to lower the pride of the Jesuits, who are very insolent and impudent, because of some credit which they have at Court.

Writing to de Salins, a physician at Beaume, March 27, 1655, he tells him to make a little hidden library containing among other lesser known books, those of Rabelais, Marot, Montaigne, and Erasmus.

Your book of Marot[18] is not bad. Guard it well and hide it for fear the monks steal it from you and burn it. Put with it M. François Rabelais' the Catholicon of Spain (one of the most popular satires against the League). The Republic of Bodin, the Politiques of Lipsius, the Essays of Montaigne, the Sagesse of Charron, the Doctrine Curieuse of Père Grasse, the Récherche des Récherches, these are books which are capable of taking the world by the nose. I would except from them the two last which are good for other reasons. Do not neglect them and make of them a little library which will be a *reductis et extra insidias monachorum.*

For the writings of Erasmus, keep them, *propter authoris dignitatem.*

O the excellent man that he was! Drink a little of the good wine of Beaune to his memory, *cum novella uxore,* and I will give you reason on the first occasion. Read his Colloquies once a year and place them in the library above mentioned, *cum ejusdem authoris lingua et encomio moriae atque institutione principis chrisiinat.*

Patin professes a great admiration for the "Religio Medici" of Sir Thomas Browne. In a letter to Spon, October 21, 1644, he writes:

There has arrived here from Holland a little book, entirely new, entitled Religio Medici, written by an Englishman and translated into Latin by a Dutchman. The book is very pleasant and curious, but very delicate and mystical. You will receive it in the first package or by the first way that I may find. . . . The author does not lack spirit, you will see in it strange and ravishing thoughts. There is yet scarcely a book of this sort. If it be permitted to the wise to write thus freely one would learn much of novelty, there was never a Gazette worth it. The subtlety of the human mind, can show itself in this way.

Again in a letter to Spon on April 16, 1645, he writes:

They make a great deal of the book entitled Religio Medici. Its author has ésprit. There are a good many things in the book. He is an agreeable melancholic in his thoughts, but he, in my judgment searches a master in religion like many others, and perhaps in the end he will not find one.

It is rather surprising to find Patin writing to Spon (July 26, 1650) in terms implying admiration of the eccentric spagyrite and Rosicrucian, Sir Kenelm Digby (1603–1665), the inventor of the famous "sympathetic powder," because if ever there was a believer in occultism, it was that doughty English Knight. Be that as it may, Patin writes:

M. le chevalier K. Digby, an English gentleman, a very zealous catholic, learned and curious, has written while journeying, as he has done much for twenty years, chiefly in Italy, a Treatise on the Immortality of the Soul, in English printed today at Paris. It is this same Knight who has written also in English against the author of the book entitled Religio Medici. I ardently wish that that which he wrote of it was also put in Latin, seeing that I have a high opinion of these two minds (ésprits).

Of another Englishman Patin writes to Belin, fils (October 28, 1659): "Bacon was a chancellor of England who died in the year 1626, who was a great personage, of an elevated and curious mind. All that which he has done (written) is good."

When Thomas Hobbes, the English philosopher who wrote "Leviathan," was ill in Paris, in 1651, Patin attended him. He writes Falconet (September 22, 1651), that Hobbes suffered from an attack of vomiting, with a greatly distended abdomen, and much pain. Patin, of course, proposed to bleed him but Hobbes refused to allow him to do so, objecting on account of his age, which was sixty-four years.

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[18] Clement-Marot wrote a metrical version of the Psalms in French about the middle of the sixteenth century. It was very popular with the Huguenots and equally hated by the Catholics.

> The next day, having insinuated myself a little more into his good grace, he permitted me to bleed him, which gave him a great relief. He alleged to excuse himself that he did not think one could take so much bad blood from him at his age. After that we were comrades and great friends. I allowed him to drink all the small beer that he wished. At last after a little purgation he was in good condition. He thanked me very much, and said that he would send me something good from England. May he soon return there gay and joyous, without any further hope of recompense.

Patin hated bitterly the Jesuits and all other ecclesiastics who mingled in affairs of state. To the Jesuits he frequently referred as "that Spanish and loyolitic vermine" or "the black troop of disciples of Père Ignace," and the "carabins de Père Ignace." "The world had been in perpetual trouble since the monks put their nose in its affairs. The philosophic liberty of physicians prevents them from loving much this sort of men."[19]

In several places he terms the Jesuits "the executioners of Christianity." Writing to Spon (November 16, 1643): "These executioners follow *à la fin* every occupation imaginable, provided there is something to be gained by it."

Patin[20] writing of a book by Isaac de la Peyrère in which the author argued for the existence of a race of men on earth before Adam, the pre-Adamites, says there are others who claim that the inhabitants of Australia and America are not descendants of Adam but belong to a totally different creation. "There are curious men, gazetteers of another world, very like our preachers, who often let themselves go, telling us marvels of a country where they have never been and to which they will never go."

FRIENDSHIP WITH NAUDÉ

One truly human friendship Patin had, with a most congenial soul, namely, Gabriel Naudé, the famous librarian of Cardinal Mazarin. Naudé was born at Paris in February, 1600. He and Patin were fellow medical students in 1622. He received the degree of Doctor of Medicine from the University of Padua in 1628, but does not seem to have ever practiced medicine, devoting himself entirely to books, first as librarian to President de Mesmes, then as librarian and secretary to Cardinal de Bagny, at whose death he served Cardinal Barberini in the same capacity at Rome, and afterwards Richelieu. In 1643 he assumed charge of the wonderful collection which Mazarin was gathering together, amounting at the latter's death to 45,000 volumes, and owing their great value largely to the judgment and erudition of Naudé. In 1623 Naudé had published the book by which he is probably best known today, "Apologie pour les grands hommes soupçonnez de magie," which was translated into English by J. Davies in 1657, under the title, "The History of Magic, by way of apology for all the wise men who have been unjustly reputed Magicians, from the Creation to the present Age." In 1627, while still librarian for President de Mesmes he published his "Avis pour dresser une bibliothèque," which went through a number of editions and was translated into English by John Evelyn, and published in 1661, with the title "Instructions concerning erecting of a Library."

Many amusing stories were told of Naudé by his contemporaries. He bought books in quantity by weight and measure, instead of by title or volume. Walking into a bookshop he would scan a pile of books, not paying any attention to the individual volumes, and then offer the dealer so much per pound or foot for the lot. Taking them home he would sort them out, placing some in the Cardinal's library, buying some for his own which was very large, and then selling the duplicates. He was in the seventh heaven of happiness in his position with Mazarin. Although the great Cardinal was avaricious to the last degree, he would spend his ill-gotten gains like water for additions to his library. He sent Naudé all over France, and to Italy, Germany, and England in quest of them. He is first mentioned by Patin in a letter to Belin, dated May 14, 1630, stating that he is sending him a small book which is the "Paranymph" for the year 1628, "written by a very learned young man named M. Naudé." Its subject was after Patin's heart: *De antiquitate et dignitate scholae medicae Parisiensis panegyris; cum orationibus, encomiasticus ad* IX *iatrogonistas laurea medica donandos.*

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[19] Letter to Belin, May 20, 1632.

[20] Letter to Spon, September 14, 1643.

Naudé figures frequently in Patin's correspondence. On August 27, 1648, he writes to Falconet a most amusing little skit about a projected trip which he, Gassendi and Naudé have planned for the following Sunday. The three are to go out to supper and to spend the night at Naudé's house at Gentilly and there.

> Make a debauch, but God knows what debauch. M. Naudé drinks nothing but water, and has never liked wine. M. Gassendi is so delicate that he would not dare to drink it, and imagines that his body would burn up if he had drunk of it . . . for me, I can but throw sand on the writing of these two grand men; I drink very little, and nevertheless it will be a debauch, but philosophic and perhaps something more, for to be all three cured of night wolves (loupgarou) and delivered from the evil of scruples, which is the tyranny of consciences, we will go perhaps until very near the sanctuary. The past year I made this journey to Gentilly, alone with him tête-a-tête, there were no witnesses, also none were missed; we talked freely of everything, without anyone being scandalized by it.

On November 16, 1652, Patin writes to Belin, fils, that Naudé has gone to Sweden, where he had accepted the position of librarian to the eccentric Queen Christina, but his stay there was short, as in May, 1653, Patin writes that all the French whom the Queen had gathered about her, had been discharged from her service except Naudé, whom she wished to remain, which he refused to do, preferring to leave with his fellow-countrymen. Naudé lived a short time afterwards, his death occurring at Abbeville in July, 1653, as he was returning to France at the bidding of Cardinal Mazarin who had returned to power.

The only criticism Patin writes of Naudé is contained in a letter to Spon (March 22, 1648) in which he says that Naudé had been to see him and had complained of the avarice of Mazarin in that he had paid him very little for the services he had rendered him.

> I think it is the fear of dying before having amassed wealth to leave to his brothers and nephews of whom there are a great many. And by this example I see easily that the passions enter just as much as ever in the minds of philosophers. I am however very sorry for it seeing that he is an honest man and worthy of better treatment by such a master (as the Cardinal).

Naudé was a freethinker. In an undated letter to Falconet, written in 1662 or 1663, Patin expatiates at length on the opinions and character of his deceased friend. He thinks he had been inspired with indifference about religion during his residence of twelve years at Rome, also that his unbelief had been fostered by one of his teachers, a professor of rhetoric at the college of Navarre. Of his personal character he speaks most highly. He was prudent, wise, well regulated, with "a certain natural equity" and a good friend, "no swearer, mocker nor drunkard. He drank only water, and I never heard him knowingly tell a falsehood. He hated hypocrites, those who had once deceived him, and liars." In one of his books he asserted that Jeanne d' Arc had not been burned but that an effigy of wood had been consumed instead. Patin refers to a number of authors who have written that she really did suffer at the stake, and adds—

> For myself I am very strongly for this girl who had been an excellent heroine. I believe that all the miracle was politics and beautiful finesse painted with the sacred and holy name of religion; which leads the world by the nose . . . I have, moreover heard it said that she was not burned but returned into her country, where she married and had children.

Of course such detractions arise concerning almost all the great figures of history, but the authenticity of Jeanne d'Arc's story has been established beyond question. Not to speak of her recent canonization by the Roman Catholic Church, the records of whose heroes and heroines do not always bear too close scrutiny, the investigations of historians have unearthed legal evidence and contemporary statements which amply confirm the historic narration of her murder in the market place at Rouen. As to the miraculous fictions about her mission they merely detract from the novel simplicity of her story.

Naudé was not a very gallant man. He said "I could never bring myself to get married. The way is too thorny and difficult for a studious man."[21]

During the troubles of the Fronde, after the Court had left Paris the Parlement of Paris, after proscribing Mazarin, ordered that his library should be sold. Patin writes Falconet (January 30, and March 5, 1652) about the sale:

> All Paris goes there as to a procession. I have so little leisure that I cannot go, joined to which the librarian, who had charge of it, is M. Naudé my friend of thirty-five years, who is so dear to me that I cannot bear to see this dissolution and destruction. . . . Sixteen thousand volumes have already gone, there remain but twenty-four thousand. . . . M. Naudé, who is very angry against the Parlement, has bought all the books on medicine for 3,500 livres.

The King finally intervened and stopped the sale by a letter to Fouquet, the procurer-general, in which he also ordered that the money obtained be refunded and the books restored, as much as possible. In his will Naudé bequeathed the books that he had bought from Mazarin's library, back to the Cardinal, and the latter bought the rest of the books in Naudé's collection, so that they all became part of the great Mazarin Library in which they still remain. Queen Christina and many others who had purchased books at the sale, followed Naudé's laudable example so that when, in 1660, the Cardinal died leaving an immense sum of money and his library to form the Collège de Quatre Nations, the greater part of the books that Naudé had collected for him were again brought together.

(To be continued.)

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[21] Naudeana et Patiniana.

LOUIS DANIEL BEAUPERTHUY

By CASEY A. WOOD, M.D.

CHICAGO, ILL.

THE suspicion—one may not call it a theory—that the mosquito and other insects are vectors of disease arose in the minds of investigators more than a thousand years ago, and the idea itself has been entertained and expressed on various occasions since then by observers in almost every part of the world. Let us consider two instances only.

Alleyne Leechman[1] quoting from the log of a British gunboat visiting the Orinoco and other South American waters during an early decade of the nineteenth century relates that the ship's surgeon endeavored by nets to protect the crew from the bites of mosquitoes because he believed them to be carriers of disease; the captain, however, objected to "coddling" his men and refused to follow this good advice, the consequence being that the doctor was the only one on board not sooner or later laid up with fever.

Early African explorers noted that it was a well-established belief among the natives that when and where mosquitoes were plentiful fevers were sure to follow. An old and popular work on medicine circulating in the colony of British Guiana states, under the head of "Precautions against Ague" that it is said by "surrounding the head with a gauze veil the action of the malaria is prevented and by its use it is possible to sleep even in the most pernicious parts of Italy without fever."

Again, we find that Nott,[2] of Mobile, Alabama, in 1848 upheld the theory of the mosquito origin of yellow fever.

But this is not the place to list the various discoverers that have told the well-known and remarkable story of insect-borne infections; the object of the present sketch is rather to relate what is definitely known about the career of the versatile man whose name heads this page.

I spent the winter of 1920–21 in British Guiana at work within sight of Beauperthuy's grave, and this proximity induced me to verify some published statements and to correct others relating to that father of medicine.

Beauperthuy[3] was born in Basse Terre, Guadeloupe, in the year 1803, but the exact date I have been unable to trace. Aristides Agramonte[4] gives August 25, 1808, while the tablet at the head of Beauperthuy's grave indicates his birth in 1802. He seems to have been early influenced by a desire to investigate the natural sciences and was, perhaps on that account, attracted by the study of medicine which, following the example of the educated French colonist, led him to Paris in 1837, where he graduated with honors, as M.D. The title of his graduation thesis was "De la Climatologie."

During his student days he paid much attention to the use of the microscope and busied himself chiefly with the causes and exact nature of contagious and epidemic diseases. After graduation he was appointed Traveling Naturalist to the Paris Museum of Natural History, and returned to Guadeloupe to pursue the practice of his profession and to make a study on the spot of those mysterious outbreaks of tropical diseases in which he was so deeply interested. This explains his presence later on in Venezuela where epidemics of yellow fever were not uncommon. The government of the day, in recognition of his services, appointed him health officer of the district of Cumaná, where, in 1853, he wrote for the *Gaceta Oficial di Cumaná* his first paper on insects as carriers of endemic and epidemic diseases, as opposed to the ancient theories of contagion and miasma. Beauperthuy had a degree conferred upon him by a Venezuelan university, and in one of his communications describes himself as "Docteur en médecine des Facultés de Paris et de Caracas, naturaliste française et micrographe."

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[1] *Daily Argosy*, Demerara, May 6, 1909.

[2] Boyce, Rupert: Mosquito or Man, 1910, p. 23.

[3] Pronounced in British Guiana as if it were spelled Bó-per-tee, with the accent on the first syllable.

[4] *Boston M. & S. J.*, 1908, p. 927.

He was married when he settled in Venezuela, and was probably a citizen of that republic. The newspapers at the time of his death in British Guiana speak of his having left his family in the former country while he was away from home on duty.

Before leaving Venezuela he contributed to the *Gaceta* and to the Académie des Sciences de Paris an essay on the disease-carrying characters of certain flies and mosquitoes. In this connection, in a personal letter to Professor Harrison, of Georgetown, dated January 24, 1910, Dr. Blanchard, editor of the *Archives de Parasitologie*, writes that he found in the Museum of Natural History many documents concerning Beauperthuy and his activities as naturalist-traveller in Venezuela during the years 1839–1841, including several letters written by him during that period.

Sir Rupert Boyce[5] has given us excerpts (in French) from a posthumous volume of Beauperthuy's writings published by his brother, Pierre Daniel Beauperthuy, at Bordeaux in 1891. As these extracts[6] have not, so far as I know, been fully translated into English, I take this opportunity of freely presenting them as an authoritative statement of the writer's doctrines touching such epidemiologic subjects as came under his observation. They also throw a clearer light upon the man and his works than any description could furnish.

Beauperthuy writes:

> Members of the medical profession, long believed that the itch and the plague are propagated by miasmatic infection or by direct contact with the clothing or other objects more or less recently touched by the infected. Such were the ingenious notions held by men during the dark ages of medicine to explain phenomena whose real character escaped their observation. However, many similar ideas prevail at the present time. One of the (few) advances in etiology has been to substitute as the cause of scabies an insect—an acarus—for some purely hypothetical etiology. Linnaeus, Avenzoar and other physicians had declared an insect to be the cause of the itch. The medical cult, wedded to opinions consecrated by hoary tradition, had preserved many ancient errors; and so it required three centuries to establish (a fact so easy to verify!) the true cause of the itch; and scabies was finally removed from the list of vesicular eruptions to mark the first of a series of parasitic diseases. Indeed this tardy recognition of the true nature of scabies may serve to illustrate a truth of deeper significance, one of which even the negroes of our colonies, the aborigines of South America, practically all the common people, have long been aware. Only those who, it would seem, profess a wider knowledge than Nature herself ignore this well-known fact.

Beauperthuy then proceeds to state his case:

> The absence of mosquitoes during cold weather explains the disappearance of malaria. The immense marshes of northern Europe are, for the same reason, not unhealthy. Marshy regions merely furnish a certain degree of humidity to the surrounding atmosphere, and the small quantity of carbureted hydrogen they exhale does not affect adversely residents in tropical countries. At any rate it is not the decomposition of the water that makes it dangerous to health and life but the presence of mosquitoes. During the dry season, which is unfavorable to insect life, fevers of all sorts diminish or disappear, not only in Senegal and on the plains of Europe but at Caracas and in the Guianas. Conversely, they revive during the rainy seasons, when mosquitoes are numerous and the diseases they produce are then most malignant. During these periods fevers are plentiful and noxious insects swarm in the stagnant waters. Avenzoar pointed out, three centuries ago, the insect that produces itch and indicated its origin. Linnaeus confirmed these findings and

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[5] Mosquito or Man, 1910, p. 101.

[6] Taken chiefly from the *Gaceta Oficial di Cumaná*, No. 57, 1854. See also, *Science*, July 24, 1908. The title of the original work is Travaux Scientifiques. A. Berlier et Cie.

presented the *Acarus scabei* to the medical world; but the discovery of the itch insect was found to disturb ruling theories. Why, then, admit this isolated fact, that threatened to upset the whole fabric of medicine—that marvellous structure so satisfying to all, or nearly all, the demands of science? Why jeopardize the solidity of an intellectual edifice by the introduction of a degrading innovation—so menacing to an art and to dogmas first taught by a master and afterwards sustained by innumerable disciples? . . . According to tradition, paludal emanations are more deadly at night than during the remainder of the twenty-four hours. One may add in explanation that it is also at night that the death-dealing mosquito is most active. The inhabitants of marshy regions, say believers in the ancient theory, suffer less from intermittent fevers than do newcomers; but why should miasmatic emanations affect less frequently or energetically organs habitually subject to their influence than those exposed less often? . . . House flies and other small Diptera that feed on ulcers, excrement and putrid matter generally, are themselves subject to parasites; a fact of considerable interest. Common flies, that annoy one by clinging so tenaciously to the lips and nasal orifices, are themselves infested with parasites, as proved by their thin appearance and ill-nourished condition, and they try to relieve themselves by depositing their germs on the skin and mucous membrane of other animals. If one of these infected insects be pressed firmly between two glass slides and be laid aside for three or four days in this (tropical) climate the microscope will plainly reveal adult parasites (*des acarus*) that have escaped from the abdominal cavities and attached themselves to the body of the fly. This experiment, which is easily made, requires very little practice with the microscope. These parasites (*acariens*) may reach the human integuments by ordinary locomotion, but this is not the usual method; as a rule they are carried by the common house fly to which they attach themselves. The latter, laden with decomposing matter upon which their parasites feed, unload on the skin or mucous membrane of human beings or on objects that surround them their disease-producing germs or acari. These deposits on the lips and nasal orifices produce a marked irritation of the parts and give rise to small vesicles such as one sees in herpes febrilis. . . . Intermittent, remittent and pernicious fevers, as well as yellow fever, cholera morbus and the toxemias from serpents and other poisonous animals owe their toxicity to an animal or vegeto-animal virus, the introduction of which into the human system occurs by inoculation. The poisonous agent, after an incubation period, sets up at first chiefly nervous symptoms; later there is a true decomposition of the blood and other fluids of the body, affecting the circulation, the respiration, the digestion and all the other functions. . . . Intermittent fever is a serious disease spread by and due to the prevalence of mosquitoes; and these fevers disappear or decrease in severity in forest regions that, because of their altitude, discourage the development of insect pests, quite apart from the amount of decaying matter in the neighborhood. . . . Indians living in marshy districts, as a preventive of fever and ague, build smoky fires at night in front of their huts. This is an efficacious means of driving away mosquitoes—a device they do not resort to in other (insect-free) localities. A still more successful method for this purpose and one that all natives understand and practice is anointing the body with certain greasy substances. It is true that the oily matter does not prevent penetration of the mosquito sting but it neutralizes the poisonous

TABLET MARKING THE GRAVE OF LOUIS DANIEL BEAUPERTHUY IN THE OFFICERS' CEMETERY, H. M. S. PENAL SETTLEMENT, MAZARUNI RIVER, BRITISH GUIANA quality of the secretion and renders it innocuous. . . . The expression "winged serpents" employed by Herodotus may well be applied to mosquitoes in view of the dire effects of their bites on the human economy. Thus it may be seen how a truth was expressed by the ancient writer in the form of fable. . . . Yellow fever had (upon a certain occasion in Venezuela) reached an unusual degree of malignancy, spreading equally among Europeans and Indians. Señor Manuel Artiz, almost a centenarian, was attacked. I tried to encourage him by the assurance that he would live to be a hundred, and fortunately this prophecy was justified by the result. . . . To the mission of my adoption I have brought the fruits of fourteen years of microscopical study of the blood and of other fluids taken from patients affected by all the different types of fever. Investigations made in many tropical and subtropical countries have been of great assistance in determining the cause of yellow fever and the means of combating that terrible malady. As to the etiology of yellow fever in particular I refrain for the moment from making it public, as my researches in that direction form part of a greater work that will detail facts so novel and so much at variance with current teaching that I dare not give them publicity without the fullest and most convincing evidence. In this connection I am sending the Paris Academy of Sciences a sealed letter[7] that furnishes a résumé of the observations I have made to date, thus assuring me priority of discovering the causes of epidemic fevers in general. My method of treating these diseases I have not hesitated to make public and I believe it to be equally efficacious for Europeans and natives. The plan of treatment is easy to master, and every intelligent doctor who will follow my directions may readily obtain as good results as I myself. . . . One must not regard yellow fever as a "contagious" disease. Outbreaks of this malady depend upon certain favoring conditions, elevation, temperature, humidity, vicinity of pools of water, canals and low-lying lands near the seashore; and these are just the conditions that also favor the generation of mosquitoes. . . . The mosquito inserts through the skin his suction apparatus (an instrument in the shape of a sharp hollow needle armed with two lateral saws) and injects into the wound a lethal fluid which may well be likened to the venom of a poisonous snake. This liquid poison softens the blood globules, brings about rupture of their coverings, dissolves their solid constituents and facilitates the mixture of the coloring matter with the blood serum. Such action appears to be almost instantaneous because, under the microscope, I have observed that the blood extracted through the proboscis of the mosquito is devoid of corpuscles, this state of fluidity facilitating its withdrawal by means of the sucking apparatus of the insect. If after injecting the poison the usual suction is prevented or interrupted the poison remains in the wound and sets up a more pronounced septic inflammation than when some of it has been allowed to be redrawn with the extracted blood. The local irritation was formerly explained by the breaking of the mosquito's sting in the wound, but the insect proboscis is an elastic, horny needle which after numerous observations I have never seen ruptured *in situ*. . . . The carriers of infection are of numerous species, and are by no means equally dangerous. The variety called *zancudo bobo*, whose legs are striped with white,

THE GRAVE OF LOUIS DANIEL BEAUPERTHUY IN THE OFFICERS' CEMETERY, H. M. S. PENAL SETTLEMENT, MAZARUNI RIVER, BRITISH GUIANA is the most common of the domestic mosquitoes; its bite is inoffensive as compared with that of some other insects. The *puyon* is the largest and the most vindictive. Its proboscis is bifurcated at the extremity and its bite in favorable cases, when the poison is not absorbed, merely makes a topical deposit resulting in a papule-like, purulent scabies, but which is not contagious. Children are its chief victims. The extent of the suppuration makes it difficult to decide whether or not the remains of an insect are to be found in the eruption. . . . Upon what do mosquitoes feed if not upon decaying animal substances like, for instance, (poisonous) fish carrion? Why regard it as strange or unlikely that the injection of similar putrid matter into the body should be productive of grave disorders? Magendie has shown that a few drops of fluid material from decomposed fish injected into the bloodstream of animals produces, after a short interval, symptoms analogous to those of typhus and yellow fever. Is it not practically an injection of rotten fish poison that these insects make beneath the skin and into the cellular tissue of man? The animalcule peculiar to yellow fever thus introduced spread in all directions, swimming in the blood-current. They have a rotary movement, first from right to left, then from left to right. A small dose of sulphate of quinine instantly inhibits these movements and the organisms are then carried along in the current without showing the least sign of self-propulsion.

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[7] The (translated) title is said by a writer in the *Daily Argosy*, May 6, 1909, to have been: Researches into the Causes of Asiatic Cholera, of Yellow Fever and of Marsh Fever, and to have been dated January 18, 1856. So far as I can learn, this essay, which would certainly be a most interesting and perhaps illuminating medico-historical document, has never been published.

Hut on Kaow Island, Mazaruni River, British Guiana. One of Fifty in the Pavilion Hospital Plan Adopted by Beauperthuy for His Treatment of Leprosy. (Kirke)

As will be seen from the foregoing excerpts, Beauperthuy undoubtedly considered the mosquito to be the carrier of the infection that is immediately responsible for malaria, yellow fever and other diseases. He is very emphatic in stating his case and in denying the verity of the older theories, although it remained for others to establish the exact character and origin of the virus. He again and again insists that in the causation of malarial and other fevers insects are the intermediate hosts of the *materies morbi* (the specific cause of the disease) and that they alone inoculate their victims with the poisons in question. Nevertheless he fell into the error of asserting that the morbific agent is some extraneous substance—some decomposing organic material like the ptomaines of putrid fish—and not, as we now know, live organisms transferred by the insect from man to man. However, in spite of these defects in his theories of the relations of insect life to epidemic diseases, one may, with Boyce, recognize in Beauperthuy "a medical man with a strong biological trend" and confer on him the title of "father of the doctrine of insect-borne disease."

Beauperthuy's fame as an original investigator and authority on epidemic and endemic diseases spread in the course of years all over the West Indies and South America and he became known even more widely for his studies of leprosy (which he thought might also be propagated by insects) and for his claim that when the disease is treated in the early stages it is generally curable. His so-called "cure" of the disease became known, was practiced not only on this Continent but in Europe and India; and his personal services were in wide demand both in the West Indies and South America. He had under his care many patients, rich and poor, suffering from the dread disease.

In 1870, during one of his journeys from Venezuela to the nearby island of Trinidad, Beauperthuy was invited to remain in that colony and test his recently discovered treatment. On giving consent he requested that the medical profession of Trinidad be represented and associated with him in the investigation. Accordingly, Dr. Bakewell, for the English element, and Dr. G. P. M. de Brissac, for the French, were chosen. Both these gentlemen were much impressed by Beauperthuy's theories and practice but it is doubtful whether they really understood them.

It was about this time also that negotiations for his services in British Guiana were begun. The latter colony had always been liberal in its efforts to mitigate the horrors of leprosy within its own borders, and then as now maintained at Mahaica, about thirty miles from Georgetown, a large hospital filled with patients. It was proposed that Dr. Beauperthuy be given an opportunity to administer his remedies there.

The story of these negotiations, of the investigator's year in British Guiana and of his death in the midst of his ministrations I have been able to follow by means of official and other documents kindly placed at my disposal by the Hon. Cecil Clementi, Colonial Secretary; the Hon. Prof. (now Sir) J. B. Harrison, director of the department of science, etc.; Acting Surgeon-General Ozzard; Capt. Harold Frere, superintendent of H. M. S. Penal Settlement; Mr. Justice Dalton, U. S. Consul; C. W. Davis and Mr. L. D. Clear, Jr., of the department of science and agriculture.

The proposal to bring Dr. Beauperthuy to the Colony came officially before the British Guiana authorities at a meeting of the Court of Policy (upper branch of the legislature) early in 1870. According to the *Colonist* of August 25, 1870, the Governor informed the Court that negotiations had so far progressed that a bill on the subject of a special leper hospital on Kaow Island was in course of preparation; also that Dr. Beauperthuy had just arrived in the Colony and was about to visit the proposed site of the hospital in company with the Surgeon-General, Dr. Manget. Dr. Beauperthuy would not remain long in the Colony, but he desired to stay during the trial of his remedies and to bring with him certain (private) patients then under his care that he might superintend their treatment and complete their cure. He showed photographs of his patients before and after treating them. He did not profess to cure nor did he wish to treat cases of advanced leprosy—only those in their incipiency. The patients Dr. Beauperthuy was to bring with him would not be a charge on the Colony; they were sons of well-to-do people (who had unfortunately acquired the disease) and who would pay their own way.

A RECENT (1921) VIEW OF KAOW ISLAND, MAZARUNI RIVER, BRITISH GUIANA, SHOWING TRACES OF THE 50-COTTAGE HOSPITAL ERECTED BY THE COLONIAL GOVERNMENT FOR THE TREATMENT OF LEPROSY BY THE BEAUPERTHUY METHOD

At a meeting of the Court on September 27, 1870, the Governor further reported that through the Surgeon-General he had made arrangements for the treatment of about fifty lepers, selected cases from the asylum at Mahaica, which Dr. Beauperthuy had visited and carefully examined. He found the asylum too crowded for the carrying out of his method; and furthermore believed that only about twenty-five per cent of the inmates were in the curable class; for the remainder he could do nothing. It was finally arranged that his fee was to be six hundred dollars a month, that separate shelters should be built on Kaow Island for public patients and a specially constructed cottage for each of his eight or ten private cases, the latter paying rent therefore to the Government. The surgeon of the Penal Settlement was to be associated with Dr. Beauperthuy who would instruct him fully how to apply his treatment, which was in no sense a secret remedy. No charge would be made for such instruction.

On September 23, 1870, an ordinance (No. 18) containing these provisions was read the first time; on October 12, 1870, the Leper Asylum Bill was read a third time and passed. On December 17, 1870, by notice in the *Official Gazette*, Governor Scott made proclamation setting aside the beautiful Kaow Island, at the junction of the Mazaruni and Essequibo rivers as a leper hospital and appropriating such sums as would properly equip and maintain it for the treatment of as many patients as it was deemed proper to place therein. A later number of the *Official Gazette* contains, among other estimates, "for three 'kokers' (sluice gates) $450, to drain the island; for fifty huts, $500, and for other buildings, $2,500."

From items in the *Creole*, *Colonist* and other local newspapers one learns that Beauperthuy was not idle while the legislature was arranging accomodations for his leper patients up the Mazaruni, but was treating them at Mahaica and elsewhere. Eventually his nephew, Jules Beauperthuy, and the latter's wife joined him. They were living at Bartica Grove, a small village opposite Kaow Island on the mainland, the nephew acting as assistant, although it does not appear that he was a medical graduate.

One realizes how consistent Beauperthuy was in his claim that hygienic surroundings are essential to a cure of leprosy, when one learns something of the ideal conditions presented by the locality he finally chose for his sanitarium in British Guiana. The Kaow Island hospital was built on the small cottage plan, and practical isolation was secured by the rule, one patient, one hut. Chiefly, however, it must be remembered that a strictly "outdoor" life could be practiced continually by sufferers living in a country and climate where the temperature "in the shade" never falls, the year round, day or night, below 70° Farenheit, and rarely rises, even at midday, higher than 85° and that this heat is constantly tempered by ocean breezes. Moreover, the island lies fifty miles from the coast, and was free of mosquito and other (human) insect pests; so that good drainage combined with shelter from the frequent tropical rains and direct sunlight was about all that was required for his purposes in this land of everlasting summer. Clothing was of minor importance and food of the proper quantity and quality was always at hand.

This pavilion or cottage hospital consisted of some sixty buildings, the majority of the simplest construction, a few others—including a church—of larger size. Captain Frere, who kindly photographed the island for me, found the original drainage system still effective and, after a lapse of fifty years, in fairly good condition. As for the huts, however—*pereunt etiam ruinae*—only the site, partly covered by jungle "second-growth," can now be identified. However, Henry Kirke[8] gives a picture, here reproduced, of one of the huts, that appears to have survived, for a quarter of a century, the destruction of most of the other buildings.

After Beauperthuy had been treating leprosy patients in British Guiana for about six months a circular despatch (see the Demerara *Creole*, Feb. 10, 1870) was received from the British Secretary of State notifying the Colonial authorities that the attention of the home government had been directed by a report of Dr. Bakewell of Trinidad to the Beauperthuy treatment of leprosy and it was proposed to send out from England Dr. Gavin Milroy to observe the effects of that treatment. He would visit various colonies in which the method was on trial. Would the government of British Guiana pay a share (six-sevenths) of the total expense (about ten pounds sterling a day, or one hundred and fifty-six pounds in all) for six months' observation by this expert? Although Dr. Beauperthuy was at the time treating lepers at the expense of the colony, it agreed to the proposition and voted the amount. Milroy set out on his mission and was investigating the Kaow Island hospital on the day of Beauperthuy's death.

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[8] Twenty years in British Guiana, 1898, p. 27.

It is not the purpose of this paper to discuss the value of the Beauperthuy remedies in lepra, but it may be said that, in the official report just mentioned, Bakewell remarks that the plan combined attention to general hygiene with the application of local resolvents. Briefly, his system included residence in as salubrious a locality as can be procured, the diet (nutritious but not too stimulating) to consist of a daily portion of fresh meat, but no pork nor salt fish; red wine in moderation if the patient has been accustomed to it; in addition, attention to all other rules of health. Internally, Beauperthuy prescribed mercuric bichloride in small doses. Certain liniments, of which one contained balsam of copaiba, were used to relieve and cure the eczematous and other eruptions so common in leprous diseases. For the active destruction of the tubercles he employed either a strong solution of silver and copper nitrate (made by dissolving a silver coin in strong nitric acid and adding an equal bulk of distilled water) or, by preference, the oil of the cashew nut (*Cunacardium occidentale*). The oil was rubbed on with a sponge, and in some cases a needle was used to puncture the tubercle in order to set up suppuration. Beauperthuy always advised the employment of this method only when the disease was "localized" and had not attacked the internal organs.

Subsequent observers, while reporting amelioration of the symptoms in some cases, reported against it as a whole. In 1874, Dr. A. G. Cameron, special commissioner for visiting leper asylums, and other surgeons who inspected Kaow Island and studied the patients there, were unable to report any cases of permanent cure. In its day, however, the Beauperthuy method was practiced in many widely separated countries of the globe—in India, (Bombay, Madras), in Norway, etc., but it was finally abandoned as unsuccessful in all these centers. The hospital on Kaow Island was abandoned in the course of time although well into the eighties a few survivors were still located there.

Beauperthuy died quite suddenly and without warning at five o'clock, Sunday morning, September 3, 1871. The *Colonist*, of September 7, and 11, furnishes the following description of his death and burial:

> It is with extreme regret that we announce the sudden death from apoplexy of Dr. Beauperthuy at the Leper Establishment on Kaow Island, where he was engaged in the development of his system for the cure of leprosy. We understand that the doctor was sleeping in his hammock when his stertorous breathing attracted the attention of Madame Beauperthuy, the wife of his nephew, M. Jules Beauperthuy, who resided with him. She attempted to arouse the doctor but without effect; in a few minutes he died without having rallied or spoken.
>
> Information of the doctor's death was conveyed to the Settlement as promptly as possible; and Captain Twyford at once made preparations for the interment. M. Jules Beauperthuy decided that his uncle's remains should be buried at Bartica Grove. Later, at the request of His Excellency the Governor, the body was exhumed and found its last resting place in the beautiful Officers' Cemetery of the Penal Settlement. The funeral procession was headed by the Governor of the Colony and the Chief Justice, and included the

Superintendent and the principal officers of the Settlement.

As described to me by a well-preserved and intelligent Creole gentleman who, as a young man, knew Beauperthuy in the flesh: he was a tall, well-built man of commanding presence and attractive personality.

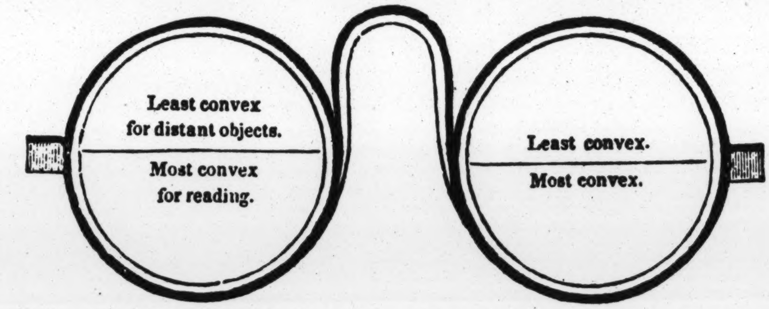
Whatever may have been the additions that Beauperthuy made to the science of medicine, he was undoubtedly a model physician, cultivated, far-seeing, versatile and endowed with an analytical mind. Moreover he exhibited that unusual gift, a kindly enthusiasm that made friends and partisans of his patients—indeed of everyone with whom he came in contact. British Guiana has done what she could to keep his memory green.

BENJAMIN FRANKLIN, THE INVENTOR OF BIFOCAL SPECTACLES

In a letter to George Wheatly, dated Passy, May 23, 1785, Benjamin Franklin describes and illustrates a pair of bifocal glasses which he had had made for his use by Dollond, the famous optician of London. Just why this useful invention of Franklin's was allowed to lapse into obscurity for many generations after its discovery, is not known. One would think that a practical optician such as Dollond would have grasped its value, and that its usefulness, so easily demonstrated, would have introduced it at once into popular vogue.

Franklin, following his invariable custom, did not patent his idea, so that there was no restriction on Dollond or any other optician who wished to make such lenses.

> By Mr. Dollond's saying that my double spectacles can only serve particular, I doubt he has not been rightly informed of their construction. I imagine it will be found pretty generally true that the same convexity of glass through which a man sees clearest and best at the distance proper for reading, is not the best for greater distances. I therefore had formerly two pair of spectacles, which I shifted occasionally, as in travelling I sometimes read and often wanted to regard the prospects. Finding this change troublesome, and not always sufficiently ready, I had the glasses cut, and half of each kind associated in the same circle, thus . . . By this means, as I wear my spectacles constantly, I have only to move my eyes up or down as I want to see distinctly far or near, the proper glasses being always ready. This I find more particularly convenient since my being in France, the glasses that serve me best at table to see what I eat, not being the best to see the faces of those on the other side of the table who speak to me; and when one's ears are not well accustomed to the sounds of a language, a sight of the movements in the features of him that speaks helps to explain; so that I understand French better by the help of my spectacles.—*The Works of Benjamin Franklin*, Philadelphia, 1852.



WILLIAM AND JOHN HUNTER[1]

By THOMAS McCRAE, M.D.

PHILADELPHIA, PA.

THE story of these brothers reads like a romance and is unique in the history of medicine. Two young men come to London without any special advantages, except their being Scotch, which perhaps is sufficient advantage in itself, and reach the top of their profession, one at his death being the leader in his field of work and the other perhaps the foremost surgical figure in the world.

The brothers had striking similarities and perhaps equally marked differences. Both had the spirit of the investigator; both were unsatisfied if they did not see things for themselves; both were keen for facts; both were great anatomists; both realized the unity of nature and that the departments of natural history could not be separated from one another; both were great natural philosophers; both were collectors and accumulated many treasures of various kinds; both influenced medical thought and advanced knowledge; both had remarkable pupils; and both have left their names deeply carved on the tablets of medical history. They differed in their education and hence to some extent in their interests. William, with a university education and more polished in the ways of the world, showed wider interests and in addition to his medical museum had a magnificent library and a wonderful collection of coins. As has been said, "he drank the cup of intellectual life with both hands." John with little education, as the term is commonly used, was rather scornful of books and his collections were concerned almost entirely with anatomy and natural history. Nothing in nature was without interest to him.

There has been much discussion as to which of them was the greater, but such controversy does not seem worth while in view of the fact that both were great. Undoubtedly the majority verdict would be for John Hunter and there seems little question that his influence on science and medicine, using the term in a broad sense, was much greater than that of his older brother, but there seems no question that John owed much to his brother, who took him to London and started him on the path which led to such great success and attainment. It seems also fair to consider that John owed a great deal to Williams' influence, for there is a striking similarity in their methods of work, habits of thinking, and the realization of the unity of nature. It would seem altogether probable that John absorbed a great deal of this from the older brother. Much has been made of the quarrel which parted them and its occurrence is naturally a matter of regret. At this day it seems very difficult to arrive at any absolute judgment as to where the blame should be placed; perhaps it should be divided. Reading the evidence, it has always seemed to me that the greater part of the fault was probably with John Hunter. They were reconciled shortly before the death of William Hunter.

William Hunter, born in Scotland in 1718, received the greater part of his education at Glasgow University, from which he carried away a store of solid scholarship. He subsequently became associated with Cullen, with whom he had evidently a very close friendship, and a plan of partnership was formed by which each in turn should look after the practice for a year while the other studied away from home. William Hunter carried out the latter part of the agreement by spending a year in Edinburgh, but in place of returning to the practice, decided to go to London in 1741. He was fortunate in being associated with John Douglas, one of the leading obstetricians in London. He aided Douglas in his studies in anatomy and in preparing illustrations for a work which was never published.

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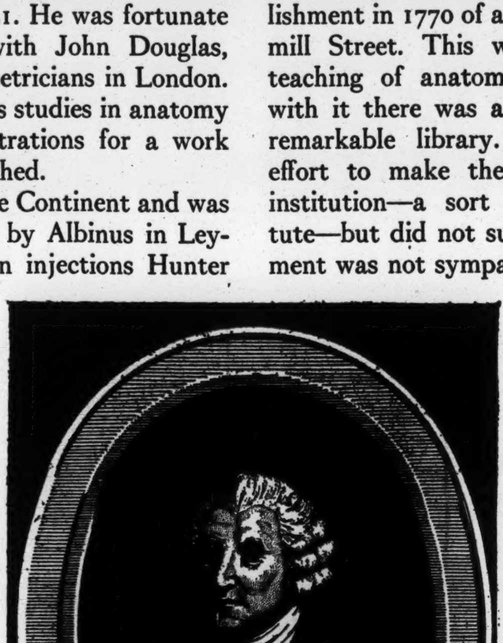
[1] Read at a Meeting of the Section on Medical History of the College of Physicians of Philadelphia, November 30, 1921.

In 1748 he visited the Continent and was particularly influenced by Albinus in Leyden, in whose work on injections Hunter took especial interest. Later he studied for a time in Paris. On his return to London, he found the field open, success came rapidly and he was appointed physician to the court. His special success was in obstetrics, but he also practiced as a physician.

One does not feel that either of the Hunters was a man who would be satisfied with success in practice and nothing else. The greatest interest in William's life seems to have been to teach. He was first and last a teacher, beginning with lectures to naval surgeons in surgery in 1746 and later in anatomy. His last lecture may be said to have been given while he was dying. He showed throughout a complete comprehension of the unity of the laws of nature and of the importance of comparative anatomy. He was constantly carrying on investigations, of which those relating to the lymphatics, embryology, structure of the gravid uterus, and malformations may be mentioned as the most important. His work on the cellular membrane is worthy of mention. It has been said that he sometimes failed to see things but was rarely wrong in what he did see.



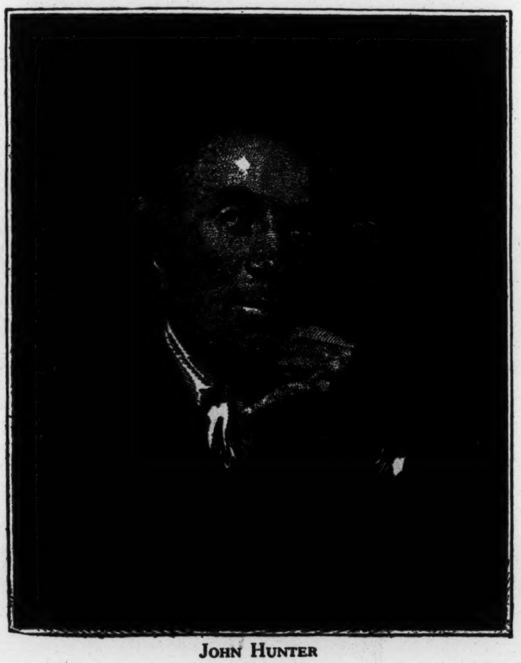
William Hunter
(1718–1783)

His interest in teaching led to the establishment in 1770 of a school in Great Windmill Street. This was primarily for the teaching of anatomy, but in connection with it there was a large museum and a remarkable library. He made a strong effort to make the school a permanent institution—a sort of Anatomical Institute—but did not succeed, as the Government was not sympathetic. At this time in London teaching was poorly organized and the student had to receive his education in many different places. Had William Hunter's plans been adopted it might have been that around his anatomical school as a nucleus a great teaching institution would have developed.

Along with his practice, his investigations and his teaching went the habit of the collector not only of anatomical and natural history specimens, but also of rare books and coins. The number of treasures in his library is really surprising. There are 2,345 works published before 1600. The library is rich in pamphlets, records of the medical controversies of the day and in publications pertaining to American affairs, as well as in the classics and in examples of the progress of early printing.

William Hunter died in 1783, leaving his museum to his nephew, Matthew Baillie, for twenty years, after which time it was to go to the University of Glasgow. Anyone will be richly repaid by a visit to the Hunterian Museum in Glasgow. Particular attention should be given to the anatomical specimens and especially to those concerned with the uterus. The injections are most wonderfully done and it is difficult to imagine how they could be improved upon. In recent years much has been done to put the specimens into proper condition and properly catalogue the library and collection of coins.

William Hunter's professional life was especially concerned with obstetrics and in this he rose to be the foremost authority in London. It seems curious to us to find the foremost obstetrician and one of the foremost anatomists of the day in the same man. Doubtless it was his specialty which made him take the particular interest which he did in the investigation of the gravid uterus. In this field of work he added greatly to knowledge and this is usually regarded as his best anatomical contribution. Whatever opinion we hold as to the position of William Hunter himself, there is no question of the men who studied under him. He was a "man midwife" in a sense other than that in which the term was usually employed. He brought great men into the intellectual world of medicine.



JOHN HUNTER
(1728–1793)

John Hunter, born in 1728, and ten years younger than his brother, had a very different life in youth. He took no interest in the acquirement of knowledge, neglected school and did not acquire a satisfactory education. All attempts to induce him to become interested in books were useless. Throughout his life he jeered at book learning and gloried in the fact that he had kept free of it. One cannot help feeling that sometimes under this lay a deep regret for his lack of education. There may have been other reasons, however, for his rather biting comments on book learning, because many of the profession of that day knew little else and were more concerned with what had been written about disease than what they could observe themselves.

John Hunter's lack of general education undoubtedly affected his literary output, but in no way influenced his powers of observation and investigation. For him investigation and the collection of facts were all important; teaching apparently did not especially appeal to him, at any rate in the form of lecturing, and an early invitation from his brother William to give lectures on anatomy was declined. In later years his lectures on surgery were a trial to him and he apparently never became fluent in delivery.

He came to London in 1748 at the invitation of his brother and at first was associated with him in his anatomical work. This opened up new interests for him, and for the rest of his life he was constantly engaged in investigations and trying to find out new things. He worked energetically at anatomy and did some hospital work under Cheselden and Pott. The next year he was giving demonstrations in anatomy, a testimony to his ability and industry. In the next few years he attended the hospital practice of Cheselden and later at St. Bartholomew's he studied under Pott. In 1754 he entered St. George's Hospital, with which he was associated for the rest of his life. William had plans to make up for John's lack of education and persuaded him to go to Oxford. But to the investigating mind of John Hunter, Oxford held no attraction and his stay was brief. The Oxford atmosphere of that day was not a congenial one for a man of Hunter's interests.

In 1756 he was appointed House Surgeon to St. George's Hospital, but held the post for a few months only. During this time he was improving his knowledge of human anatomy but evidently the realization that this was only a part of comparative anatomy came to him and he widened his field of work. With this was joined the study of physiology and the desire to associate the study of function with that of structure. This is an outstanding fact in Hunter's work—the importance of physiology and the value of the study of principles, so strongly illustrated in his later surgical work. Comparative anatomy became one of his great interests; animals from menageries or anywhere else, whales, birds and fish were sought after. There are many curious accounts of his experiences in obtaining specimens. The practice of surgery had compensations in that it provided the means of acquiring more specimens.

Ill health came later and for the purpose of change, in 1760 he entered the army and saw service abroad. This experience was not wasted time; he continued his studies in natural history and laid the foundation for his work, "Treatise on the Blood, Inflammation and Gunshot Wounds." On his return to London in 1763 he began the practice of surgery with prospects which could not be considered as encouraging. There was no lack of good surgeons. He was more interested in scientific work and was known as an anatomist, while he regarded surgery more as a means to an end. His saying, "I must go and earn this damned guinea," has become one of the favored expressions of the profession. There must have been many guineas, for very soon he established a "laboratory" outside of London. This was "a farm, a menagerie, an institute of anatomy and physiology, and a villa." Dens for dangerous animals, ponds for fish and aquatic life, stables, kennels, cages and hives, were among the diverse furnishings of his estate. The tenants were as diverse. The study of bees engaged his attention for many years.

Success in practice came slowly, but in 1768 he was elected a surgeon to St. George's Hospital, an appointment of the greatest advantage to him. He was able to take "house pupils," among whom were Physick, of Philadelphia, and Edward Jenner. In 1773 he gave his first course of lectures on surgery, but lecturing was never easy for him and cost him much in labor and anxiety. They were new lectures on surgery, for they dwelt on principles rather than practice. Embryology, physiology, pathology and a discussion of the processes of disease and repair were included. But hard common sense was not lacking and always the value of experiment insisted upon, as shown by the celebrated advice to Jenner, "To try and not to think." The days were too short for his labors; one is appalled by the account of what he accomplished. He did an enormous number of dissections and *post-mortem* examinations himself and must have dissected thousands of animals. He had original records of the dissection of 315 different species of animals. His letters are full of appeals for specimens and for reports on points in natural history.

The death of Pott in 1788 left Hunter at the head of the surgical profession. Professional honors had come to him in full measure. But nothing interfered with his work; the learning of new things by observation and experiment was his passion. He died in harness and "with his boots on," which has been termed the death of a gentleman. The occasion was a tragic one. There was a dispute at a meeting in St. George's Hospital over a matter near to Hunter's heart. His anger brought on an attack of angina pectoris, from which he had suffered for many years, and the end came at once at about the same hour as Marie Antoinette was beheaded in Paris.

His museum remains as a magnificent memorial. It was purchased by the Government and given into the custody of the College of Surgeons. It contained over 13,000 specimens. The museum and library are in the College building in Lincoln's Inn Fields.

To sum up John Hunter's many qualities and activities is difficult. He was a great investigator, an accomplished naturalist, a skilful anatomist, a physiologist, an experimental pathologist, an original thinker and, perhaps greatest of all, a stimulator of thought. He may well be regarded as the founder of scientific surgery and well did Sir William Osler say that he "combined the qualities of Vesalius, Harvey and Morgagni."

To estimate the extent of the influence of the Hunters on American medicine is difficult. There are grateful references in letters to the advice given by William Hunter on the establishment of medical schools in this country. Many Americans studied in London under the Hunters; two should be mentioned, William Shippen, Jr., who gave the first course of lectures on anatomy in Philadelphia, and Philip Syng Physick, one of the most brilliant of early American surgeons. But the influence of the work and teachings of the Hunters must have been greater than can be stated in set terms.

Every medical man who visits Great Britain should make a point of visiting the museums left by the two brothers. The collection of William Hunter is at Glasgow University and that of John Hunter in the College of Surgeons in London. The work of their hands is there for him to see, and speaks, perhaps more plainly than their words could have done, of what they accomplished.

SIR RICHARD BLACKMORE, M.D.

(1653–1729)

AN ACCOUNT OF HIS LIFE AND WRITINGS DRAWN FROM ORIGINAL RECORDS NOT KNOWN TO HIS EARLIER BIOGRAPHERS

By THOMAS NOXON TOOMEY, B.A., M.D.

ST. LOUIS, MO.

Sir Richard Blackmore is one of those men whose writings have attracted much notice, but of whose life and manners very little has been communicated, and whose lot it has been to be much oftener mentioned by enemies than by friends.—SAMUEL JOHNSON.

He was a chaste writer and he struggled in the cause of virtue even in those times when vice had the countenance of the great, and when an almost universal degeneracy prevailed.—COLLEY CIBBER.

AMONG the pleasant duties that come to those who can visualize and evaluate events long since forgotten to the world, there is none more gratifying than that of restoring to its proper place the memory of one who was the victim of unjust criticism. Not only do later generations profit by contemplating the life achievements of virtuous and able men, but they are better able to take the lessons into their own lives if they have before them a detailed account of all the chief events that entered into the life of a man who is presented for their admiration. It was the latter consideration that led the author to ransack old parish registers and other unutilized records for the details of Blackmore's life that were not known to his earlier biographers.

Richard Blackmore was born in Corsham, a small Wiltshire town near Bath, England. The day of his birth, usually believed to have been in 1654 or 1655, can now be stated to have been in September, 1653.[1] Richard was the son of Robert Blackmore, Gentleman, an attorney at law, and a member of an old and respectable Dorsetshire family in modest circumstances. The family of Robert Blackmore was not a large one. Richard seems to have had an elder brother, Thomas, who preceded him to London. Another one of the family, George, a brother or cousin, removed to Over in Cheshire.

Richard had no menial employment during his boyhood, but was given the advantage of several years tutoring in a private country school. At the age of thirteen he was sent to St. Peter's Hall, Westminster School, London, for a part of one year, and then, on March 19, 1668, he was entered as a commoner in St. Edmund's Hall, University of Oxford. Eight years later, April 4, 1674, he took the degree of bachelor of arts, and on June 3, 1676, he was graduated with the degree of master of arts. Richard continued his studies at Oxford for the next five years. In the first of these he was employed part of the time as a tutor in St. Edmund's Hall, Oxford.[2] It was during his last five years at Oxford that he started on his first medical studies. The latter were almost certainly made in the university, as his critics would surely have made capital of it if Blackmore had been apprenticed to a physician. Furthermore, according to tradition, it was at the university that he, as a young medical student, asked Sydenham what he should read to further his medical studies. Sydenham's advice, "Read 'Don Quixote.' It is a very good book; I read it myself still," is well known, but usually misinterpreted. As pointed out by Dr. J. F. Payne in his biography "Thomas Sydenham," it is not likely that Sydenham meant to be disdainful to a young man whom he knew only as a medical student. What he undoubtedly meant to imply was, either, "Know human nature," or "It makes little difference what one reads, as only clinical observation and practice are able to make a physician." However, Blackmore took the advice to heart and read "Don Quixote" several times during his life.

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[1] From the fact that he was seventy-six at the time of his death, October 9, 1729, and from the fact that he would have been fourteen instead of thirteen at the time he was entered in Westminster School, had he been born before September, 1653.

[2] That Blackmore had been the master of a primary school was the implication of the following lines that were written against him:

"By nature form'd, by want a pedant made,
Blackmore at first set up the whipping trade;
Next quack commenc'd; then fierce with pride he swore
That tooth-ache, gout and corns should be no more.
In vain his drugs as well as birch he tried;
His boys grew blockheads and his patients died."
—*Codrington.*

It is likely, however, that had he been an humble village schoolmaster the fact would have been too little known to have come to the ears of his enemies. That it was as a tutor at the University of Oxford that he found employment, is borne out by the following quotation from the well-known antiquarian, Hearne (3) who had been a student at St. Edmund's Hall: "That he (Blackmore) was a great tutor, and much respected, as I have often heard." Remains, ii, 169; and by the following entry in the Athenae Oxonienses, iv, 793: "Thomas Heynes . . . became a com. of S. Edm. hall under the tuition of Mr. Rich. Blackmore in the month of Nov., 1678."

As the medical studies at Oxford consisted mostly in reading the medical classics, with little opportunity for bedside studies, Blackmore left England in 1681 and went to Padua, which then was one of the foremost, if not the foremost, medical school in the world. He studied in Padua for two years, taking the doctorate in medicine in April, 1683. Dr. Blackmore then went to Geneva, where he was on May 21, 1683. Shortly afterwards he traveled in France, Germany and the Low Countries for six months.

Dr. Blackmore on his return to England promptly settled in London, where he commenced the practice of his profession in Cheapside, in the early part of 1684. By the end of his first year of medical practice he was in a position to marry. It was on February 9, 1685, that he married Miss Mary Adams in St. Paul's Church, Covent Gardens, London (4). Three years after he commenced practice, at the Comitia Majora Extraordinaria of April 12, 1687, he was elected a fellow of the Royal College of Physicians, a distinction that came to him rather early in his medical career. Little is definitely known of his accomplishments during the next nine years, except that he energetically espoused the cause of the Revolution. He attracted no literary notice to himself except for his epic poem "King Arthur," which was published in the beginning of March, 1694. That he rose in the profession to a consulting practice and an elite clientage is evident from the fact that he was appointed physician in ordinary to William III. He was knighted by that monarch at Kensington on March 18, 1696 (6) and later received a gold metal and chain from William. Though Blackmore had published his first epic the year before, it is known that he was knighted in recognition of his professional attainments. In fact, William III knew naught about poetry and cared less. In 1702, after the death of William III, Dr. Blackmore was made physician in ordinary to Queen Anne.

SIR RICHARD BLACKMORE
(1650–1729)

Sir Richard is known to have lived in Sadler's Hall, Cheapside, where he kept several servants and otherwise lived in the style of the wealthy. His friends, however, lived in the "city" or old part of London.

While still residing in Sadler's Hall, Dr. Blackmore wrote "A Short Story of the Last Parliament," published in 1699, "A Satyr against Wit," in 1700, and in the next year, "The Discommendatory Verses," and "A Paraphrase on the Book of Job," etc. The leisure hours of the next years were spent in writing "A Hymn to the Light of the World," published in 1703, "Eliza," published in 1705, "The Nature of Man," published in 1711, "Creation," published in 1712, and "Essays on Several Subjects," published in 1716.

During one of the last years of the seventeenth century, Dr. Blackmore was elected a governor of St. Bartholomew's Hospital. Except for serving from August 21, 1701 (14) on the committee that had supervision of the apothecary shop, he seems to have played a minor role in the affairs of the hospital. Sir Richard was voted to be an Elect of the Royal College of Physicians on August 22, 1716, and shortly afterwards, on October 1, 1716, he was named a Censor of the same body. A little later he moved from Cheapside to a house in Earl's Court.

During the last four years of Sir Richard's residence in London (1717 to 1721) his medical practice underwent a gradual decline on account of the infirmities that accompanied his advanced age. It was during this time that he finally permitted himself to believe that he had acquired an experience and judgment sufficient to justify the writing of medical works. His first medical text, "A Discourse upon the Plague, with a prefatory account of Malignant Fevers," was published in 1720. During the last years in London, his mind, always a devoutly religious one, was not preoccupied by medical writings, but dwelt at times on theological problems, a reaction often noted to accompany the declining years of life. As a result of this later bent he published in 1721 his "Just Prejudices against the Arian Hypothesis." In the following year he published "Modern Arians Unmasked, A New Version of the Psalms of David," and a religious epic called "Redemption: a divine poem in six books . . . Added, a Hymn to Christ the Redeemer."

On October 22, 1722, Dr. Blackmore resigned his position as an Elect in the Royal College of Physicians, as he had a year before removed his household to Boxsted, Essex, where he spent the last eight years of his life. In his new home he devoted his entire time to writing, mostly on medical subjects, though incidentally he published, in 1723, a valuable "History of the Conspiracy against the Person and Government of King William III in the year 1695," and an epic poem called "Alfred." His medical writings will be noticed in a following chapter. The last of his works published during Sir Richard's lifetime was entitled "Natural Theology;" it was published in 1728. The last twenty months of Blackmore's life were saddened by the loss of his wife, who died in Boxsted on January 1, 1728 (10.) These months were devoted to the writing of "The Accomplished Preacher," a work that was, at his request, published posthumously in 1731 by the Reverend John White of Nayland, Essex, the minister of the Established Church who brought him consolation in his last sickness. Sir Richard Blackmore died on October 9, 1729 and was buried in the church yard at Boxsted. He left no children. In the church there is a monument bearing an inscription that he wrote to the memory of his wife, Dame Mary Blackmore, and to himself[3] (13).

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[3] M. S. Mariae Uxoris Ricardi Blackmore, Eq., Aur. et M.D.

Hic tumulata jacet cultrix sidissima christi,
  Cui fuit accensum pectus amore Dei;
Optima amicorum, nata optima, et optima cunjux;
  Urbana et prudens, cauta, benigna, proba.
Quam memor illa fuit meriti, sed laesa nocenti
  Ignovit facilis, damnaque inulia tulit!
Doctrinae rivos sacris è fontibus hausit,
  Et nondem sanctam vicit avara fitim:
Hinc inculpatim discebat ducera vitam,
  Hinc docte exposuit spemque fidemque suam.
Tu fugis ad coelos, thalami carissima consors,
  Te subito atque tubens, te, pia sponsa sequar.
Moerens maritus scripsit, et hoc monumentum erexit.
M. S. Ricardi Blackmore, Eq. Aurat et M.D.

A portrait in oil of Dr. Blackmore, by Colsterman, now hangs in the Royal College of Physicians, London. It was presented to the society by Richard Almack, Esq., in 1863.

LITERARY WORKS

A profoundly moral man, Blackmore took offence at the gross licentiousness of the drama and poetic literature of the last half of the seventeenth century. Accordingly, it fell to his credit to be the first one who had the courage to protest against the insults and indignities that the theatres rendered nightly against public decency. Unskilled in the use of the pen, of an age when he could not hope to perfect himself in an art which he had not acquired in youth, and burdened with the cares of an extensive practice, he set himself the unremunerative task of writing poems that would elevate and instruct rather than vitiate and deprave youthful readers. It should be remembered that Blackmore never claimed for himself the higher poetic gifts. He realized that his muse was a right-minded, but not strikingly, handsome young lady. The motive that led Blackmore to literary efforts is best described in the following words with which he introduced himself to the public when he published his first poem:

> I am a gentleman of taste and culture, and though I cannot ever hope to build up the nervous lines of Dryden, or attain the polish and brilliance of Congreve, I believe I can write what the generation sorely needs—works that intelligent men may study with improvement, devout Christians may read without being offended, and pure-minded girls may peruse without blushing from shame. 'Tis true that I am a hard-worked doctor, spending my days in coffee-houses, receiving apothecaries, or driving over the stones in my carriage, visiting my patients. Of course a man so circumstanced must fail to achieve artistic excellence, but still I'll do my best.

Blackmore tells us that his earlier works were written "by such catches and starts in such occasional uncertain hours as his profession afforded, and for the greater part in coffee-houses, or in passing up and down the street." This apology led to his writings being compared to the rumblings of his chariot wheels. He had read, he says, "but little poetry throughout his whole life; and for fifteen years before had not written an hundred verses, except one copy of Latin verses in praise of a friend's book."[4] Shortly after his first poem, "Prince Arthur," appeared, it was attacked by John Dennis in a criticism which Samuel Johnson pronounced to be "more tedious and disgusting than the work which it condemns." Far from resenting the attack, Sir Richard took occasion in a later work to praise Dennis as "equal to Boileau in poetry, and superior to him in literary abilities." At the time of its publication, "Prince Arthur" received a very uncommon instance of favorable reception, for in two years it had three editions.[5] It found admirers in no less personages than John Locke and Molineux, but when Johnson wrote his life of Blackmore, the poem had been completely forgotten. Blackmore's ardor for poetry continued, and in 1700 he published "A Paraphrase on the Book of Job, etc."

The publication, in 1700, of "The Satyr Against Wit," in which the wits of the time were justly castigated on the score of

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Liber ad aetheras dum spiritus avolat oras,
  Sanguinis hic recubat corpus inane meum,
Judice sed Christo tandem redeunte resurgens,
  (Id spero) vitum non moriturus agam.
Tu quoque quae domis taciti collega sepulchri,
  Et dandum confors cara cubilis eras,
Emergens mecum litui clangore Iubente,
  Tu scandes socias regna beata fugas:
Dumque arces coeli *Christum* resonare docemus,
  Fundima et *patri* cantica sacra Deo,
Pectora praedulcis saturabit nostra voluptas,
  Quae fuit aeternum pura ab amore Dei.
    Ætat. 76, Ob. Oct. 9, 1729.

[4] The book he alludes to was "Nova hypothesis ad explicanda febrium intermittentium symptomata, etc." by William Cole, M.D., 1693. Blackmore's Latin poem in praise of Cole's book was in the form of a dialogue between Jupiter and Apollo.

[5] Dr. A. Carlyle (*Auto.* p. 98) in a lonely inn in the South of Scotland found, in 1744, no books but the "Bible" and "Prince Arthur."

immorality and gross irreligion, raised up a swarm of enemies against Sir Richard. Immediately after the publication of "The Satyr" there appeared a collection of satirical "Commendatory Verses on the Author of the two Arthurs and the Satyr Against Wit, by some of his Particular Friends." The chief contributor was Tom Brown. Blackmore lost no time in replying with "Discommendatory Verses on those who are truly commendatory on the Author of the Arthurs, etc.," folio. This performance Dryden, who had previously criticised Blackmore's "Paraphrase" in the preface to his "Fables," lived long enough to ridicule in the prologue to the "Pilgrim" (1700). Garth attacked him in "The Dispensary," (iv, 172, etc.), bidding him to "learn to rise in sense and sink in sound." Sedley, Steel and others had their fling, but their malevolence was powerless to check Blackmore's intention to write in a good cause. But when he launched "Eliza, an Epic Poem in Ten Books," folio, she dropped still born from the press, for, as Johnson said, "the world was now weary of contending about Blackmore's heroes, for I do not remember that by any author, serious or comical, I have found 'Eliza' either praised or blamed."

At this time he turned some of his thoughts to the description of living characters, and wrote a poem on "The Kit-Cat Club," and "Advice to the Poets how to Celebrate the Duke of Marlborough," folio, 1709. On the occasion of another year's success, believing himself qualified to give more instruction, he wrote a poem of "Advice to a Weaver of Tapestry." Steele, who was then publishing *The Tatler*, lit on Blackmore's work, and treated it with such contempt that, as Fenton observed, he put an end to that species of writing.

In 1711 appeared "The Nature of Man," a poem in Three Books, octavo, and in 1712, "Creation, a Philosophical Poem Demonstrating the Existence and Providence of God," octavo. Whoever judges of the latter work by any other writings of Sir Richard will do it injury. While to modern readers it presents few attractions, it was warmly praised by Addison in *The Spectator* (No. 339). Johnson prophesied "that this poem alone, if he had written nothing else, would have transmitted him to posterity as one of the first favourites of the English Muse." Even the splenetic John Dennis was excited to admiration. In beauty of versification, according to him, "Creation" equalled the "De rerum naturae" by Lucretius, while in solidity and strength of reasoning the august Roman was far excelled by Sir Richard. It is natural to inquire why an author surpassed his previous efforts. In this regard it is interesting to read what Johnson heard from a Mr. Draper, an eminent bookseller, who gave him the following account that he had received from Ambrose Philips, a hack writer:

> That Blackmore as he proceeded in this poem laid his manuscript from time to time before a club of wits with whom he associated, and that every man contributed as he could, either improvement or correction; so that there are perhaps nowhere in the book thirty lines together that now stand as they were originally written.

Johnson's comment on the above quotation runs as follows:

> The relation of Philips, I suppose, was true, but when all reasonable, all credible allowance is made for this friendly revision the author will still retain an ample dividend of praise; for to him must always be assigned the plan of the work, the distribution of its parts, the choice of topicks, the train of argument, and, what is yet more, the general predominance of philosophical judgement and poetical spirit. Correction seldom effects more than the suppression of faults: a happy line or a single elegance may perhaps be added; but of a large work the general character must always remain; the original constitution can be very little helped by local remedies; inherent and radical dullness will never be much invigorated by extrinsick animation.

When *The Guardian* was abruptly ended in 1713, Blackmore considered the polite world to have become destitute of entertainment, so in company with Mr. Hughes he commenced "The Lay Monk." The serial had three issues weekly from November 10, 1713 to February 15, 1714. Blackmore wrote the Monday and Wednesday papers and Hughes wrote the Friday papers. The serial[6] employed for its theme the supposition that some literary men, whose characters are described, had retired to a country house to enjoy scholarly discussions, and, resolved to instruct the public by communicating their discussions to the pages of "The Lay Monk." Whether any real persons were concealed under fictitious names is not known. Blackmore continued to write in prose for some time, as a volume of "Essays on Several Subjects," octavo, appeared in 1716 (2d Ed. in 2 vols. in 1717). One of the essays alluded to a godless author who had burlesqued a psalm. The charge referred to Pope, who afterwards avenged himself by including Blackmore in "The Dunciad" (ii, 259–268). Addison said, in No. 45 of *The Freeholder*, "I have lately read with much pleasure the 'Essays on Several Subjects' published by Sir Richard Blackmore," on which statement Swift (Works by Scott, 2d Ed., xii, 140) makes the remark, "I admire to see such praises from this author to so insipid a scoundrel, whom I know he despised." In his essays Blackmore took little care to propitiate the wits, for he scorned to avert their malice at the expense of virtue or of truth. One should, however, join with Johnson in the judgment that Blackmore's prose was not the prose of a poet but is languid, sluggish and lifeless: his diction is neither daring nor exact, his flow is neither rapid nor easy, and his periods are neither smooth nor strong.

Blackmore relapsed to metrical writing, and in 1721 he published "A New Version of the Psalms of David, fitted to the Tunes used in Churches." This work, being recommended by the archbishops and many bishops, obtained a license for its admission into public worship. Two later works, the religious epic "Redemption" and the heroic epic "Alfred," did not fare so well, as they attracted practically no attention.

In conclusion it should be noted that Samuel Johnson, who appraised Blackmore's writings more impartially and judiciously than any other critic, wrote of him as follows:

> Blackmore by the unremitted enmity of the wits, whom he provoked more by his virtue than his dullness, has been exposed to worse treatment than he deserved; his name was so long used to point every epigram upon dull writers that it became at last a byeword of contempt: but it deserves observation that malignity takes hold only of his writings, and that his life passed without reproach, even when his boldness of reprehension naturally turned up on him many eyes desirous to espy faults, which many tongues would have made haste to publish. But those who could not blame could at least forbear to praise, and therefore of his private life and domestick character there are no memorials.
>
> As an author he may justly claim the honours of magnanimity. The incessant attacks of his enemies, whether serious or merry, are never discovered to have disturbed his quiet, or to have lessened his confidence in himself; they neither awed him to silence nor to caution; they neither provoked him to petulance nor depressed him to complaint. While the distributors of literary fame were endeavouring to depreciate and degrade him he either despised or defied them, wrote on as he had written before, and never turned aside to quiet them by civility or repress them by confutation.
>
> He depended with great security on his own powers, and perhaps was for that reason less diligent in perusing books. His literature was, I think, but small. What he knew of antiquity I suspect him to have gathered from modern compilers; but though he could not boast of much critical knowledge his mind was stored with general principles, and he left minute researches to those whom he considered as little minds.
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> With this disposition he wrote most of his poems. Having formed a magnificent design he was careless of particular and subordinate elegances; he studied no niceties of versification; he waited for no felicities of fancy; but caught his first thoughts in the first words in which

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[6] In its collected form it was called "The Lay-Monastery."

they were presented: nor does it appear that he saw beyond his own performances, or had ever elevated his views to that ideal perfection which every genius born to excel is condemned always to pursue, and never overtake. In the first suggestions of his imagination he acquiesced; he thought them good, and did not seek for better.

The poem on "Creation" has, however, the appearance of more circumspection; it wants neither harmony of numbers, accuracy of thought, nor elegance of diction; it has either been written with great care, or, what cannot be imagined of so long a work, with such felicity as made care less necessary.

Its two constituent parts are ratiocination and description. To reason in verse is allowed to be difficult; but Blackmore not only reasons in verse, but very often reasons poetically; and finds the art of uniting ornament with strength, and ease with closeness. This is a skill which Pope might have condescended to learn from him, when he needed it so much in his "Moral Essays."

In his descriptions both of life and nature the poet and the philosopher happily co-operate; truth is recommended by elegance, and elegance sustained by truth.

In the structure and order of the poem not only the greater parts are properly consecutive, but the didactick and illustrative paragraphs are so happily mingled that labour is relieved by pleasure, and the attention is led on through a long succession of varied excellence to the original position, the fundamental principle of wisdom and virtue.

MEDICAL WORKS

Of the medical writers of the first quarter of the eighteenth century, probably none had a deeper appreciation, than did Dr. Blackmore, of the obligations that must be assumed by one who would write on medical subjects. That he should have, for thirty years, indulged his literary proclivities in fields apart from the one that brought him sustenance and employed his thoughts and hands, is testimony to his belief, during those years, that he should study disease still more before attempting to leave a medical legacy to the world. And then, when Dr. Blackmore did take up his pen in the cause of medical advancement, he gave us no commentaries on the ancient authors, such as was the custom of the day, but gave us his own observations that were drawn entirely from his own experience. Though he had, some fifty years before, been anticipated in this modern style of writing by Sydenham, he unquestionably went much further than the latter in basing his writings entirely upon his personal experience. In drawing his delineations of diseases and their method of cure, from his practice rather than from transmitted knowledge, Blackmore incurred the criticism of those who were schooled in the medical classics. They charged that his writings shows "an affected contempt of the Ancients, and a supercilious derision of transmitted knowledge." In answer, Blackmore wrote in the preface to his "Treatise on Consumptions" as follows:

> Some gentlemen have been disingenuous and unjust to me by wresting and forcing my meaning in the Preface to another book, as if I condemned and exposed all learning, though they knew I declared that I greatly honoured and esteemed all men of superior literature and erudition; and that I only undervalued false or superficial learning, that signifies nothing for the service of mankind, and that, as to physick, I expressly affirmed that learning must be joined with native genius to make a physician of the first rank; but if those talents are separated I asserted, and do still insist, that a man of native sagacity and diligence will prove a more able and useful practiser than a heavy notional (i.e., idealistic) scholar, encumbered with a heap of confused ideas.

Dr. Blackmore's first medical treatise was "A Discourse upon the Plague with a prefatory account of Malignant Fever." It was published in 1720 and was of practical and timely value as it treated of the two serious fevers that were of special concern to the English profession from 1718 to 1722. England, though she had been free of the plague after 1666, suddenly became alarmed following the devastation of Marseilles and the southern part of France by an epidemic of the plague in 1720. The other disease discussed by Blackmore in his first medical work was malignant fever, or what we now call typhus fever. It was especially prevalent in London in 1710, 1714, 1718 and 1719. Blackmore's account of typhus fever has permanent value because, as Creighton says, "The period, 1718–1719, was an extremely slack tide in medical writing, insomuch that hardly any accounts of the reigning maladies remain, except those by Wintringham of York and Rogers of Cork." Indeed, as the year 1720 was in that respect little or no better than the years before, we have, hence, in Blackmore's book about the only one on fevers written in London in that year. Furthermore, Blackmore advanced the knowledge of his day when he recognized, before anyone else, that a certain disease which later came to be known as "little fever," "hysteric fever," or "febricula," was truly a fever, or an acute generalized infection, to use the modern term. It had for several years been remarked that "many, especially women, have been subject to fits of vapors (hysterical seizures), cold sweats, apprehensions, and unaccountable fears of death; every small disappointment dejected them, tremblings and weakness attended them." This disease passed for a simple hysterical or nervous disorder until Blackmore recognized that it had the earmarks of an epidemic fever, despite its afebrile or slightly febrile course. As an example of his clinical acumen and candor, we should note that he confessed his inability often to distinguish "little fever" from the prodromal state of typhus without observing the case for two or three days. We are unable to say whether this "little fever" was an infection that was etiologically different from typhus fever, or whether it was simply an anaphylactic reaction to the virus of typhus in one who had had typhus.

In 1721 the typhus abated in London, but smallpox became epidemic throughout southern England. Blackmore devoted his second medical work to the latter disease, and entitled the book, "A Treatise upon the Small Pox in Two Parts . . . Part Two, a Dissertation upon the Modern Practice of Inoculation." (A second edition was printed in the same year.) The rôle in history of this latter work was, that in it Blackmore uttered one of the first protests against the practice of inoculating the smallpox; a practice that was introduced into England not more than two years before Blackmore wrote his tract against it. His protesting voice had been preceeded in England by only two others—one having issued from the lips of a Rev. Mr. Massey in a sermon preached at St. Andrew's, Holborn, on July 8, 1722 (though not formally published), and the other by Dr. William Wagstaffe, published some six months before Blackmore's. That Dr. Blackmore was not courting a patronage by his opposition to inoculation is evident from the fact that his clientage, drawn as it was from the wealthy and courtly classes, had become converts to the new practice through the example set by George I and his eldest daughter. That the practice of inoculating the smallpox gradually waned (in Great Britain at least) after 1730, and was finally forbidden by Parliament, is sufficiently well known.

The third medical work written by Dr. Blackmore was published in 1724 and was entitled "A Treatise on Consumptions and other Distempers belonging to the Breast and Lungs." Though it went through three editions (1724, 1725, 1735), it called forth no professional comment. The next year Blackmore published two books on "the spleen" (or hysterical disorders). The first one was entitled "A Treatise of the Spleen and Vapours; or Hypochondriacal and Hysterical Affections, with three Discourses on the Nature and Cure of the Cholick, Melancholy and Palsies." (2d Ed. in 1726.) The second one was called "A Critical Dissertation on the Spleen." Except for one of the "Essays on Various Subjects," these two books were his only contributions to neurology. The thesis that Dr. Blackmore originated and defended in one of these works was to the effect that the seat of the fires of passion was not located in the liver as taught by the ancients, but in the spleen, and that there was an inverse correlation between the volume of the spleen and the degree of continence practiced by the individual; a large spleen giving rise to continence and a small spleen vice versa.

The medical work published by Blackmore in 1726 was entitled "Discourses on the Gout, Rheumatism and the King's Evil." Whatever merit the discourses had in their day, they left no permanent prints on the sands of medicine. If consulted by later writers, they were at least never quoted. However, Blackmore's last medical book fared better as it received favorable mention on the continent (18). This last work was a collection of "Dissertations on a Dropsy, a Tympany, the Jaundice, the Stone, and a Diabetes"; it was published in 1727. Blackmore's paper, "Of the Miliary Fever," seems not to have been published during his lifetime. In 1751, it was included (on pp. 39 to 52) in the anonymous book, "The Cure of the Miliary Fever."

From the number of editions that were printed, it is evident that Blackmore's medical works found favor among the medical commonalty of his period. It is not surprising, however, that the later wits who wrote on medicine were unacquainted with much of what he wrote. Certainly his heavy and lifeless prose repelled rather than held the attention of his readers. That a brilliant style swings a long swath in medical as well as in other orders of literature, is well exemplified by the large number of readers that Watson, Osler, Trousseau, and Dieulafoy attracted to themselves. Nor was it solely a lumbering diction that kept Blackmore's medical works from winning caste among later writers. For, had he not quarreled with the Fathers of Medicine and left their ancient aphorisms out of his works? And, in place of the erudition that passed for medical ability in his day, had he not insisted on the necessity of Aesculapians being endowed with eyes to see and souls to comprehend?

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THE TREATMENT OF CONVULSIONS (TETANY) WITH CALCIUM IN THE SEVENTEENTH CENTURY

By PAUL GALPIN SHIPLEY, M.D.[1]

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WHENEVER the true reason for the value of one or another therapeutic agent becomes apparent, we are usually pleased to ascribe its previous use to fortunate empiricism. In 1689, Samuel Smith of the Prince's Arms in St. Paul's Churchyard, published for Dr. Walter Harris, his book "De Morbis Acutis Infantum," which was to serve as the standard work on pediatrics for nearly a century. Walter Harris was no "lewd empiric." He was a fellow and censor to the Royal College of Physicians and physician to the King and Queen, and his medical creed was orthodoxy itself. He would have resented the term empiric bitterly and rightly, for he was a Galenical physician and no "chymist" though he had studied with the great Lemery. And yet Harris was responsible for the "empiric" use of calcium salts in the treatment of convulsions in infants—the specific antitetanic therapy of today—before the word tetany was known. The association of ideas which led him to the almost exclusive use of testaceous or shell-like alkaline medicines in the practice of pediatrics, was quite logical and was characteristic of the Galenist traditions of the time in which he practiced. His therapy was sound and represented the application of the science of his time to medicine. It was evolved, just as are some modern treatments, from laboratory investigation and clinical experience, and moreover Harris found acquiescence in his ideas in the writings of Hippocrates and the recovery of his patients. There was nothing new in the use of alkaline shells and stones in therapeutics. Harris merely increased the doses in which they were given and widened their field of use till it covered the whole of pediatrics. Because these remedies served him well he abandoned the numberless cordials of the day for them and purged from his personal dispensatory—and no doubt from his patients—the diascordium, the antidota magna and the theriaca Andromachi of his contemporaries.

To Harris, Hippocrates was the wisest of physicians, the Divine Old Man, the Father of Physik, and Hippocrates had written 'Οὐ γαρ̀ τὸ ζηεὸν ὀυδὲ τὸ ὑγρόγ ὀυδὲ τὸ ϑεργὸγ. The ills of mankind were not caused by dryness nor moisture nor heat. Some other factors, beyond the power of the constitution to subdue, must be joined to one or the other of these to produce sickness. Disease was the result of the union of heat or cold, moisture or dryness with a "second quality," acidity, bitterness, saltness or sweetness or the like.

"Green glutinous vomitus, sower breath, the green Colour of the Excrementa and their sowerish Smell" were sufficiently convincing laboratory findings to lead Harris to believe that a prevailing "Acidity of the Humours" was the second quality which joined with heat or cold, etc., to produce the diseases of childhood.

> That the green Colour . . . is merely due to an acid Bile will never be in the least doubted by those who divert themselves with changing colours into Green by the mixture of Vinegar and Acid Spirits.

Now also according to Hippocrates, "Cocta non crude sunt medicanda." The acidity must be subdued and concocted and then expelled from the body if the morbid condition it occasioned was to be cured. Expulsion could be accomplished by catharsis. It only remained to find the ideal means of accomplishing concoction and what better way could be found to concoct the acerbity of the acid humours than the administration of antacid alkaline remedies? Hence the Pharmacopoeia Harrisiana.

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[1] From the Department of Pediatrics, the Johns Hopkins University, Baltimore, Md.

> Crab's eyes and shells, oyster shells and conches, cuttlefish bone, eggshells, chalk, coral, coralline, pearls, mother of pearl, both sorts of Bezoar, burnt hartshorn, burnt ivory, bone of a stag's heart, shavings of hartshorn, unicorn, Armenian bole, sealed earth, bloodstone compound powder of crabs' shells, Goa stone, confection of hyacinth (probably amythysts).[2]

These antacid remedies proved very effective against the gastro-intestinal disorders of children and so since the seeds of all maladies are the same, it was quite natural that Harris should have tried the medicines which were so successful against diarrhea and thrush against convulsions.

Now the majority of the alkalies which were in Harris' list introduce an element into the testaceous therapy of which its authors took no account and it is small wonder that Harris and his disciples were successful in their practice against convulsions. They aimed at and attained a rational alkaline therapy, but circumstances placed in their hands the best possible palliative against tetany—sufficient doses of lime salts.

As an example of the successful concoction of the humours in convulsions by testaceous means, Harris cited in his book the case of the daughter of Goodman James Lowry.

> The truth of this which I have said I have shown lately in a girl scarcely a year old, the daughter of Goodman James Lowry whom I saw shaken by the most vehement, frequent and severe convulsions which had racked her lips, eyes and almost every part of her body with slight intermission for many days before my arrival. At that time she was very pale and of horrid aspect; constipated and what little stools she passed were very green. Nevertheless she screamed loudly although her strength seemed exhausted so that the neighborhood was filled with pity for her.
>
> Throughout the duration of these convulsive movements and gripings, she took scarcely spoonfuls of food, being supported only by I know not what cordials. I undertook the treatment of this poor child and accomplished a cure with no other medicines than a few ounces of crabs eyes mixed with crystals of tartar. She was forced to swallow a scruple or more of this simple powder every hour in pennyroyal water or the like. And so this unfortunate infant completely and unexpectedly escaped death through the use of these things of little value and this without ostentation.[3]

The treatment and the reasons for the happy restoration of this child to health seem at first obscure enough today. Powder of crabs' eyes seems to savour somewhat more of charms and sigils than of any rational medication. But the *oculi cancrorum* which played so important a part in recovering Lowry's little girl had no sort of right to that name, for neither were they eyes nor were they obtained from the crab. The bodies which the apothecaries sold under the name of crabs' eyes were in reality the gastric teeth or gastroliths from the gizzard of the common Crayfish (*Astacus fluviatilis*). Since those bodies are nearly pure calcium carbonate and phosphate, it may be seen that the child in this case was given about ten grains of the calcium salts at a time.

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[2] "Oculi & chelae cancrorum, testae ostreorum, concharum, os sepiae, cortices ovorum, creta, corallia corallina, margaritae, mater perlarum, lapis Bezoar uterque, C.C.ustum, ebur ustum, os e corde cervi, rasura c.c. unicornu, bolus Armenia, terra Sigillata, lapis haematites & pulvis è cheli compositus, lapis è Goâ, species Confectionis de Hyacintho."

[3] Quin & hujus dicti veritatem multum comprobatum habui in puella annum vix unicum agente, filiâ cujusdam honesti viri, nomine *Jacobi Lowry*, *Convulsionibus* quas ununquam vidi gravissimis, vehementissimis & frequentissimis correptâ, quae per pleures dies ante meum adventum labia, oculos, artus, imo & totum corpus minimâ cum intermissione exagitaverant. Fuit illa tunc tempotis pallidissima, nec non horrido aspectu; alvus interim· astricta atque id quod parcissime dejiciebatur colore fuit viridissimum. Altâ tamen voce ejulabat, quantumlibet vires prosterni videbantur, ut viciniam commiseratione haud levi eadem afficeret. Durantibus verò hisce *motibus convulsivis* ac torsionibus ventris, vix cochleare alimenti aliquamdiu assumpserat, *Cardiacis* solummodò nesciò quibus subindè enutrita. Huic miserae infantulae subveniebam, & Curationem faeliciter adhibebam, nullis aliis medicamentis, nisi unciis aliquot *oculorum* (69) (Pulvis oculorum cancrorum) cum *crystallis tartari* admixtis. Simplicissimi illius Pulveris scrupulum unum aut amplius singulis horis in *aqua pulegii*, sut consimili statim deglutire cogebatur. . . . His viro paucis, & hac nullâ remediorum pompâ, infans ille deploratus e faucibus imminentis fati, insperatò quidem, sed perfectè evadebat.

Harris believed that the testaceous medicines were more effective in the treatment of convulsions if castor was added to them, just as nowadays we give cod liver oil in addition to calcium to children with tetany. Castor, which is the secretion of the abdominal glands of the beaver, contains beside large amounts of the phosphate, carbonate, urate and benzoate of calcium and potassium, about 2 per cent of a somewhat volatile aromatic animal fat. It is idle to speculate but it may be that castor contains the same organic substance to which cod liver oil owes its influence on calcium metabolism.

And so in the first year of William and Mary, Walter Harris, physician of London, treated tetany empirically with calcium salts according to the best science of his day.

WHAT WAS KAPPA LAMBDA?[1]

AN HISTORICAL NARRATIVE, OUTLINED FOR THE READER'S AMUSEMENT, AS A TRAGEDY, ACCORDING TO THE USUAL DIVISIONS OF DRAMATIC CONSTRUCTION

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PROLOGUE. *Muchly on secret organizations in general, and slightly on Kappa Lambda in particular.*

As long as mankind has existed, apparently, it has been the custom for congenial, and usually convivial, spirits to form fraternal cliques. Within these organizations, bound by secret vows and solemn oaths, brotherhood is supposed to reign. Although the highest ideals toward the betterment of society professedly might always be implied to the outside world, yet a fundamental principle in every such band is to stand by each other; stand by each member, *come what may*.

All crafts and professions have suffered from these secret societies at some time or other, and it is doubtful if mankind in general will ever be completely free from some sort of esoteric masonry. Like the rest of the well-known attitudes of mind so entertainingly grouped together by Miss Rose Macauley under the cryptic term of "Potterism," organized and secret fraternalism seems too deeply rooted in our natures ever to depart from us. Elements of it are found in the mythology of all civilized peoples. It is to be seen again in the ceremonial and guarded initiation rites of all primitive tribes. What other complex of psychological factors functions in the formation of modern secret brotherhoods is difficult to uncover, unless, as so strikingly demonstrated by American Greek letter fraternities, it provides satisfaction to a selfish desire for esoteric superiority over the uninitiated, and, in addition, has a practical value in considerable social power and prestige.

It is peculiar that secret organizations have never made as great headway among women as among men. Perhaps the greater suffering, borne so patiently by women for so many ages, has given them the unconscious knowledge that inner sisterhoods are hypocritical mockeries of the awful reality of everything that makes all women sisters. Or it may be that they know enough not to trust one another anyway, the most solemn vows of bondage notwithstanding.

Sooner or later, however, public opinion,

> . . . public reason just—
> Honour . . . with revenge enlarged . . .,

clashes with the principles practiced by some organized secret clique or other, and then a scandal of perennial interest is almost certain to follow. The troubles over the Knights Templars, the Masons, the Ku-Klux Klan, and the Boxers, are of broad historic importance. More locally, it is constantly expressed in the difficulties over the Greek letter societies in our universities.

The medical profession has had its full quota of secret organizations, from the guilds in the Middle Ages to the present professional medical fraternities in American Universities. The nature of the profession itself, however, like law and theology, being beyond the ordinary layman's grasp, supposedly, has contributed to keeping the influence of such bodies subservient to the best ideals of the profession itself. There is always latent trouble in the mere suspicions aroused by the very presence of any group organized in secrecy in any profession. In medicine, however, the peculiar relation of physician to patient, between fellow practitioners; the element of faith involved, and the necessity of justifying it; the sense of individual responsibility, and withal, the wholehearted, manly spirit of the leaders in the profession,—all these factors have combined to keep medical secret societies well in hand. What decent, self-respecting physician wants to meddle with any such hocus-pocus anyway?

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[1] Read before the Wisconsin Medical History Seminar, February 9, 1921.

In the history of American medicine, isolated references to a powerful secret fraternal organization within the profession may be gathered here and there. They serve but to arouse an unsatisfied curiosity regarding its perplexing activities. This society was Kappa Lambda, which started about a hundred years ago, flourished for some ten or twenty years, and then apparently came to grief.

FIRST ACT. The Beginning of Action: *In which briefly is narrated for the reader's benefit the known facts (viz., the where, when and how) concerning the birth of the hero, the Kappa Lambda Society of Aesculapius, and also concerning the hero's father.*

One hundred years ago, Lexington, Kentucky (at which name all lovers of good horses pay heed) was already a vigorous and proud city, though scarcely forty years old; vigorous, because it could thrive in a rich wilderness, and proud, because it boasted in the possession of a university which was attracting to itself forceful leaders in education from east of the mountains, and had, so soon, in speech at least, acquired a dignity of age and tradition. Lexington was the metropolis of the new empire of the West, although its population was only 5,000; and Transylvania University, though yet unsheltered in the classic groves and halls of its dreams, was seething with activity.

As early as 1799, Dr. Samuel Brown was appointed Professor of the Theory and Practice of Medicine, and Chemistry, in Transylvania University; which position he held, probably as a sinecure, until 1806; as no regular organization of a medical department seems to have been made at this early time.[1]

The Medical School of Transylvania was apparently functioning in good order in 1816, but dissensions seem to have arisen in the faculty. In 1819 reorganization was effected, and lectures were delivered in "a commodious apartment, in the upper story of a large building, . . (which was) then a tavern."[1] Dr. Daniel Drake, the enthusiastic founder of Louisville and Cincinnati Medical Schools, having resigned, "the medical faculty of Transylvania was composed of Dr. Samuel Brown in the chair of Theory and Practice of Medicine, Dr. Dudley in Anatomy and Surgery, Dr. Blythe in Chemistry, Dr. Richardson in Obstetrics and the distinguished Dr. Charles Caldwell called from Philadelphia to that of the Institutes of Medicine, to which was added Materia Medica—the school commenced a career of success and usefulness unparalleled in the Annals of Medical Schools in America."[1] If mere numbers is any criterion, this boast was true, for the school showed a growth from 37 students in 1819, to 281 six years later.

This period was one of general turmoil in medical education and practice in the United States, as witness the troubles aired before the public in the New York and Philadelphia schools, and in the frantic efforts being made to codify a system of ethics governing the profession. The reason for the difficulty may be found perhaps in the struggles of the profession to keep pace with the rapidly growing nation; in a mad rush of often unscrupulous youngsters to enter a field in which wealth and esteem were apparently so easily to be had, and of course, in the usual professional friction and jealousy aggravated by expansion. At any rate, medical schools were rising like mushrooms in the wilderness. A surfeit of doctors and medical mush was ground out, and not too finely, either. Strife and bad feeling was rampant among the professional brethren. It was but natural that some misguided idealist, with a background of classical tradition and sentimental temperament, should revert to some mystical scheme to restore real fraternalism in the medical world.

Dr. Samuel Brown, Professor of the Theory and Practice of Medicine in Transylvania University, Lexington, Kentucky, was our idealist, and the Kappa Lambda Society of Aesculapius was his scheme.

Samuel Brown was a remarkable man. His life is summarized in Gross's "Autobiography" in a manner at once indicating the greatness expected of him by his friends, and the regret of his inability to justify these expectations:

> I do not know that I have ever seen a more beautiful type of man than Dr. Brown. He had a large head, and a magnificent physique, and in his manner and address was a thorough gentleman. With a mind well stored with knowledge, added to wealth and leisure, he still failed to achieve reputation as a teacher, writer, or practitioner.[2]

Brown's was a restless, imaginative spirit, sentimental and idealistic, yearning always for a peace not to be found, as, in his flesh, he roved from place to place, impelled by family ties, friendships, or a drive to do his share in righting the world's wrongs. Observing everywhere the discord in his own vocation, the idea of a fraternal union pledging idealistic secret brotherhood in medicine appealed to his whole nature, and became his only great contribution.

Samuel Brown was born in Rockbridge County, Virginia, in 1769. His mother was a Preston, and his father a distinguished clergyman. He was educated at home, and received his collegiate training at Dickinson College, Pennsylvania. He studied medicine under Rush at Philadelphia, and with Hosack and McDowell at Edinburgh. Not being able to fulfill the Edinburgh requirements, he got his M.D. from Aberdeen. He practiced first near Washington, D. C., and later moved to Lexington, Kentucky, because his brothers had moved there. After a few years, he followed his kinsmen to New Orleans, and Natchez. Here he married, but lost his wife within a few years. With his young children, he tried plantation life in Alabama for a while, and then when Transylvania Medical School was really starting in 1816, he came back to Lexington. At the reorganization in 1819, Daniel Drake tried to get him to go to Cincinnati, but Brown preferred the established security of Transylvania to the vicissitudes of Drake's experiment, and in 1823 persuaded Drake to return to Lexington. Following a trip to France, to visit his brother who was Minister to that country, Brown resigned from Transylvania in 1825. He lived for a while in Philadelphia, traveled extensively through this country, again went abroad, and in 1829 returned to his Alabama plantation. There he died in 1830, after a series of epileptic attacks.[3]

Brown must have had a striking personality. Once seen, he was not easily forgotten; his solidity and courtesy inspired respect and friendship not easily lost; his good intentions were at once sensed,—and yet, he was the kind of man, who, making an initial good impression, is thereafter always apologized for by his friends because of his failure to do the big things naturally expected of him. Michaux, traveling through America in 1802 for the French government, visited Lexington, and said of Brown:

> A merited reputation undeniably places Dr. Brown in the first rank of physicians settled in this part of the country. Receiving regularly the medical journals from London, he is always in the channels of new discoveries, and turns them to the advantage of his fellow citizens. It is to him that they are indebted for the introduction of the cow-pox. He had at that time innoculated upward of 500 persons in Kentucky, when they were making their first attempts in New York and Philadelphia.[1]

Brown's nephew wrote of him:

> He was an accomplished scholar in many branches of learning, and an enthusiast in his own particular profession. His colloquial powers were extraordinary, and he was gifted with a natural eloquence that made him one of the most fascinating lecturers of his day. Benevolent, attentive and liberal of his time and services

to the poor, he valued his professional reputation most highly, and scrupulously observed its strictest etiquette.[4]

All this on the surface: not one single solid contribution to medicine can be credited to Dr. Samuel Brown, even by his most ardent eulogist, Dr. René de La Roche. He was a dreamer, a builder of palaces-as-he-thought-they-should-be, and his architectural masterpiece was the Kappa Lambda Society of Aesculapius.

DR. RENÉ DE LA ROCHE
(1795–1872)

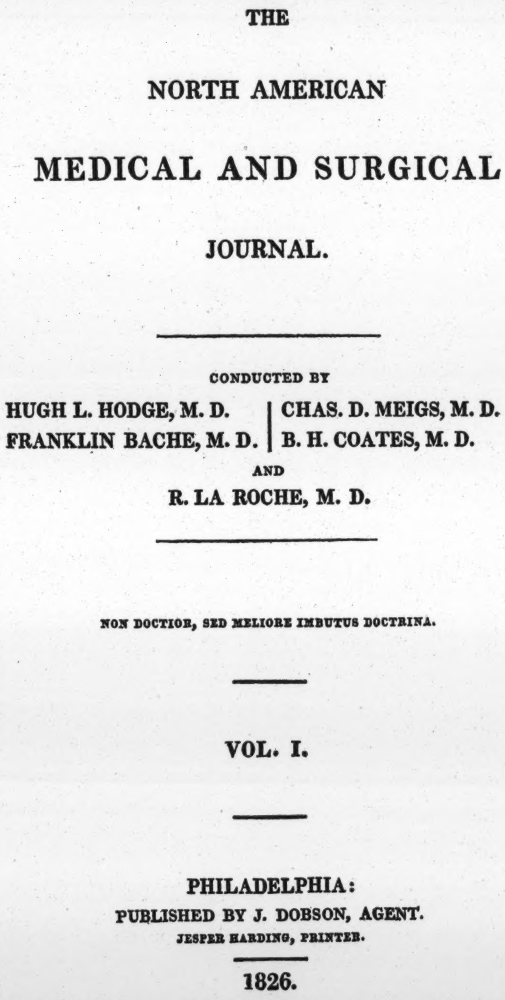
Having been itself an extremely secret organization, and having been in addition within a profession the inside workings of which seldom reach the profane and public eye, the actual details and records of Kappa Lambda are unknown. No better introduction to the history of Kappa Lambda and Dr. Brown's connection with it can be given than in the flowery apology for it written by René de La Roche.[5] La Roche was a brilliant and handsome Philadelphian; a voluminous writer, whose treatise on yellow fever is a classic, and himself an influential member of Kappa Lambda. The apology is long, being heavily padded for its own protection, but it is worth quoting. Speaking of Dr. Brown, La Roche says:

> With an ardor alike creditable to his heart and understanding, he sought all means, by precept and example, to sustain the dignity, vindicate the honor, and raise the status of the profession. In his lectures, in his correspondence, and in conversation with his younger brethren, he took the greatest pains to inculcate, with that power of argument, and that facility of elocution and richness of illustration for which he was distinguished, and a warmth of feeling which evinced the deep interest he took in the subject, the necessity—to say nothing of the obligation—on the part of physicians, of so conducting themselves in their intercourse with each other, as to insure the existence of a perfect harmony in the ranks of the profession; and in no case to be forgetful, in their relation with society at large, of those ethical principles, the observance of which serve to characterize the true gentleman. He expatiated on the honor and elevated rank of our calling, pointed out how greatly it had, but too frequently, been degraded, no less in our country than elsewhere, by the unworthy conduct and ungentlemanly and vulgar deportment of some of its members, and on the obligation we were all under to effect, with the least possible delay, a reform in that respect.
>
> With a view to insure success in this attempt—a necessity for which no one can deny existed in this country a few years ago, and more particularly at the time here referred to—Dr. Brown had recourse to an expedient, which met with the full approval of all the professional friends to whom he communicated his views. I allude to the formation of an association or general medical society, intended to embrace all the leading, reputable, and influential practitioners of medicine that could be enrolled under its banners. This association he proposed to form through means of local societies established in various sections of the country. Its object was to unite its scattered members—whether residing north, or south, east or west,—into a single homogeneous body, and by fostering among them reciprocity of kindly, fraternal, and honorable feelings, insure the establishment and cultiva-

> tion of harmony in their ranks; while at the same time, it would, through various means, be instrumental in exciting emulation, and promoting the advancement of medical knowledge.
>
> The society, which was originally planted in Lexington, where Dr. Brown was then attending to his professorial duties, and the existence of which was some years, for various reasons fully appreciated at the time, concealed from the public, was soon established in other places,—Philadelphia, New York, Baltimore, and other cities. Laws and regulations, framed by Dr. Brown, for the government of the entire association, were there adopted. By-laws, suited to meet special and local exigencies, were proposed. The Coan sage was with propriety selected as the patron of the body, and as a model most worthy of imitation. A promise, modelled in great measure on the celebrated oath of the father of medicine, was exacted of each member at the moment of his admission; to obtain which a unanimous vote of those present was necessary. By this promise the member bound himself to live in peace and harmony with, and to do everything honorable in his power to promote the welfare of his brethren in and out of the society, and to abide implicitly by a stringent code of ethics, that had been prepared for the guidance of the members in their intercourse with each other, and with society at large.
>
> The local societies established in the above-mentioned places, those in Philadelphia and New York particularly, gradually acquired importance and efficiency. Their ranks filled through means of a sort of suction, on the part of the original and successively elected members. In regard to the real amount of success of the association at large, or of its local branches, in the attainment of the object contemplated, it is unnecessary to enlarge in this place. But whether this success has equalled or exceeded, or whether it has fallen short of the anticipation of Dr. Brown, and those who joined him in the enterprise, it is certain, that while in a few places the results may, from a variety of influential circumstances, have been nugatory or imperfect, in many more they were of a salutary character, and were nowhere injurious. So far as the effect on the profession of Philadelphia is concerned, I have elsewhere stated some facts, which may without impropriety find a place here. Before the reforming power was made to bear on the medical men of that city, these, although inferior to none elsewhere, in point of intelligence, scientific attainment, or practical skill, so far from fraternizing, lived in an almost constant state of warfare,—quarreling, and even worse, was not uncommon among them, and now and then street fights occurred. This state of things gave way under the influence of the society. Soon after its establishment, harmony, comparative harmony, at least, was restored among its members, and before long, through their influence, among other medical men around them. The society did more. At its meetings much was done to excite emulation among its members, and to promote the advancement of medical knowledge. A journal, placed under the guidance of a committee of the society was, at the suggestion of Dr. Brown, established and continued to appear quarterly during six consecutive years.
>
> After a prolonged existence the society closed its career, or rather ceased to hold its meetings. But the work of reform was in great measure accomplished. Peace among doctors was comparatively restored, and is now but seldom broken; and when the unwelcome event occurs, the infractor, whatever be his social or professional position, or the wrong he may have suffered, so far from eliciting the approbation of his medical brethren, is openly and decidedly censured by all. I cannot be wrong when I say that the originator, organizer, and active promoter of a plan of federation among us so complete, so harmless, and at the same time so promising of fruitful results, and which has brought forth such fruits, if not everywhere, at least in some places, is entitled to the gratitude of every American physician who feels an interest in the honor and dignity of his profession.[5]

How much salt this great apology needs will be apparent from what follows. It is interesting to note, however, that the same forces were at work in the formation of Kappa Lambda that succeeded later in establishing the American Medical Association in 1847, and in passing its elaborate code of ethics. The reasons for troubles and the final end of Kappa Lambda are clear on the face of La Roche's apology for it.

In regard to the exact date for the founding of the Society, only conjecture is possible. In 1831, during an investigation of a secret organization within the profession in New York City, which was identified later as Kappa Lambda, it was brought out that the association had been in existence twelve years. This would make the date of its establishment at Lexington, 1819. How much the focus of trouble over the reorganization of Transylvania Medical School that year, with the departure of Daniel Drake, and the coming of Charles Caldwell, crystalized the vision of Dr. Brown into activity can only be guessed at. But it is not too much to hint that the arrival of "that belligerent Celt, Charles Caldwell" had something to do with it.[6]



THE

NORTH AMERICAN

MEDICAL AND SURGICAL

JOURNAL.

CONDUCTED BY

HUGH L. HODGE, M. D. | CHAS. D. MEIGS, M. D.
FRANKLIN BACHE, M. D. | B. H. COATES, M. D.
AND
R. LA ROCHE, M. D.

NON DOCTIOR, SED MELIORE IMBUTUS DOCTRINA.

VOL. I.

PHILADELPHIA:
PUBLISHED BY J. DOBSON, AGENT.
JESPER HARDING, PRINTER.

1826.

TITLE PAGE OF THE FIRST VOLUME OF THE KAPPA LAMBDA SCIENTIFIC JOURNAL

SECOND ACT. The Rising Action: *In which some account is given of the progress of our hero (the Kappa Lambda Society of Aesculapius) in Philadelphia and New York, and further of some events tending to cast a shadow along the pathway of our hero.*

Of the progress of Kappa Lambda in Lexington nothing is known. It is likely that there it fulfilled some of its worthy objects stated so nicely by La Roche. Probably the same was true in most of the smaller places where branches were established. But in the large cities of Philadelphia and New York, its path became very rough, and when dragged into the pitiless light of publicity, it quickly wilted away. Nothing can be found concerning its career in Baltimore, and it is doubtful whether a chapter ever was organized in Boston.

Dr. Brown, on the occasion of one of his many visits to Philadelphia and New York, probably organized these chapters himself. He seems at any rate, always to have maintained close personal touch with the Philadelphia body. F. P. Henry, in his "Standard History of the Medical Profession in Philadelphia," says:

> This Philadelphia branch of Kappa Lambda was begun by Drs. La Roche, Samuel Jackson, C. D. Meigs, and Thomas Harris, and had harmony of the profession as one of its chief aims. Its influence was remarkably successful in this direction.[7]

The date of the organization of the Philadelphia and New York branches is uncertain. They may have been started early in the twenties, but no indications of activity are to be found until the year 1825.

The evidence of a powerful underground force in medical politics in the two big cities was first felt in New York. Although there had been slight disturbances for many years in the College of Physicians and Surgeons, the high renown of its faculty, almost intact for twenty years, its steady growth, and rising character, made these of little consequence. Opposition to the policies of the faculty began to show in 1825. The Trustees of the College, formerly exclusively composed of the faculty, but now including many city practitioners, started to interfere with the teaching and financial status of the professors. Considerable complaining was done by both sides to the Regents of the State of New York, and by an investigation and exoneration of the faculty, it was hoped that the matter was wholly settled. This was in 1825. The faculty was composed of such eminent men as Wright Post; David Hosack, the physician of Hamilton, and a leading figure in New York's social and literary life; Samuel L. Mitchell, U. S. Senator, and builder of the first light-house in this country; William J. MacNevan, an Irish refugee with Thomas Addis Emmet and a brilliant scholar and writer of European life; and John W. Francis, whose sketches of New York life are still delightful reading. The opposition group in the Trustees was composed of John R. Manley, later President of the State Medical Society, John Augustine Smith, a former member of the faculty, Alexander H. Stevens, later President of the American Medical Association, and Edward Delafield. Among this group was also Francis U. Johnstone, over whose election in the County Medical Society later on, Kappa Lambda came to grief. It developed some years after this trouble over the faculty of the College of Physicians and Surgeons, that the opposition group in the Trustees, some of whose names have been given, were all members of Kappa Lambda. It was this group that initiated the trouble, bringing accusations against the faculty which were not proved. In 1826, finding their efforts so hampered by the Trustees, the faculty, whose money had erected the Barclay Street building, resigned in a body, and in the fall of that year opened a new school, which affiliated with Rutgers College of New Brunswick, New Jersey, and became the Medical School of that institution. Its initial efforts were successful, but the opposition did not cease their attacks. The fight was carried to the legislature of the State, and the charter of the new school was declared illegal after a four year struggle. With the closing of Rutgers Medical School, its distinguished faculty ceased teaching, and retired, with the exception of Valentine Mott, the greatest American preaseptic surgeon. The interesting point in this, is that upon the resignation of the original faculty of the College of Physicians and Surgeons, the opposition group in the Trustees—Stevens, Delafield, John Augustine Smith, and the rest, became the new faculty.

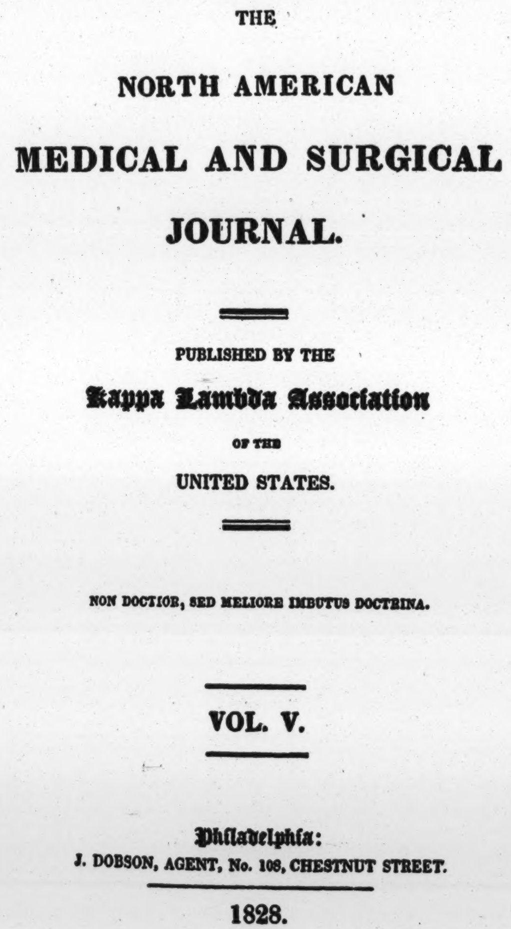
That the members of the Rutgers faculty, who erected a new building with their own funds on Duane St., realized an organized opposition operated against them is indicated in the veiled language used in their inaugural dissertations. They were powerless against it, however, for it apparently controlled both the County and State Societies, and in addition had a majority in control in the leading medical institutions and hospitals of the city. The feeling smouldered and bred suspicion and dissension until an exposé in 1830 uncovered the true nature of affairs.

In Philadelphia a new medical quarterly made its debut in 1826. This was the *North American Medical and Surgical Journal*, and its editors, as announced, were Drs. Hugh L. Hodge, Franklin Bache, Chas. D. Meigs, B. H. Coates, and R. de La Roche. Most of these men were connected with the justly famed Pennsylvania Hospital, and had a large influence on medical education in Philadelphia. In the Preface to the fourth volume of the Journal, issued in 1827:

> The editors beg leave to explain, more fully than they have heretofore been permitted to do, the circumstances under which they have acted as conductors of this work.
>
> Several years ago, an Association of American Physicians was founded by the zealous and philanthropic exertions of Dr. Samuel Brown, late Professor of Medicine in Transylvania University. This Institution, under the title of the Kappa Lambda Association of the United States, was intended to be co-extensive with the

Union, and accordingly, its branches, which in the progress of this design, have been established in various parts of the country, acknowledge a mutual connexion.

Not being charged to make any special communication on this subject, the Editors restrict themselves to the general announcement, that the objects of the Institution are to elevate the character of the Medical Vocation, by inculcating a higher standard of excellence, not merely in the professional or ministrative, but also in the ethical relations and duties of physicians.



THE

NORTH AMERICAN

MEDICAL AND SURGICAL

JOURNAL.

PUBLISHED BY THE

Kappa Lambda Association

OF THE

UNITED STATES.

NON DOCTIOR, SED MELIORE IMBUTUS DOCTRINA.

VOL. V.

Philadelphia:
J. DOBSON, AGENT, No. 108, CHESTNUT STREET.

1828.

TITLE PAGE OF THE FIFTH VOLUME OF THE KAPPA LAMBDA SCIENTIFIC JOURNAL. NOTE FIRST MENTION THAT THE JOURNAL WAS PUBLISHED BY THE KAPPA LAMBDA ASSOCIATION OF THE UNITED STATES

As one of the methods of attaining these useful ends, the Philadelphia K. L. Society from its central position, was entrusted with the publication of a Medical Journal, which guaranteed as to its principles, by the good feelings of a large body of physicians, might operate usefully among the Societies, and the profession at large,—combine, in a more didactic form, the scattered elements of knowledge, and disseminate more widely, in Reviews and Summaries of Intelligence, the means of perfecting the healing art.

This journal is the fruit of the authority thus delegated to the Philadelphia Society. It was committed to the direction of a publication committee, consisting of the present Editors, who, in the discharge of their duties, have now conducted it to the termination of the fourth volume.

There is no doubt that this journal served a very useful function, especially since there was scarcely another reputable journal published at the time in this country. The character of its original articles, and the careful preparation of its reviews made it very valuable. However, it is only too probably true that its contributors were limited to members of Kappa Lambda. It was upon this scientific publishing enterprise that Kappa Lambda relied as an excuse for worthy scientific objects when it began to get into trouble. If the journal had continued longer than its six years of life, it might have served more fully as this excuse.

About this same time, namely, 1826, a young medical enthusiast, George McClellan by name, entered medical politics in Philadelphia, and stirred things up by not only trying, but succeeding in establishing an entirely new School of Medicine, unrelated in any way to the old traditional medical institutions of the city. This was Jefferson Medical School. Of this, Dr. S. G. Morton wrote:

> I venture to assert, from a personal knowledge of the time and circumstances, that no professional innovation was ever more unfavorably received by the physicians of Philadelphia, than this. It had a direct tendency to isolate its author, and certainly influenced his destiny through life. It was assumed and asserted that there was not patronage for the support of two

> schools, and that the new one could only succeed at the expense of its elder rival. And, inasmuch as the whole scheme was regarded as professional heresy, it need not be added that its partisans met with no favor.
>
> It is important to observe, however, that, owing to the general disapproval of the plan of a new college, Dr. McClellan met with great difficulty in organizing a medical faculty . . . Incongruous elements were thus associated together; dissensions arose, and disunion followed.[8]

Among the members associating with McClellan in the new project were Eberle, and Francis S. Beattie. It was with the latter that McClellan got into trouble. The causes are not known, but McClellan sued Beattie for libel, and it was from this trial that Kappa Lambda was brought into an unfavorable light. Beattie was removed in 1827 from the faculty of the new school, and the trial took place the year following. Beattie was a member of Kappa Lambda.

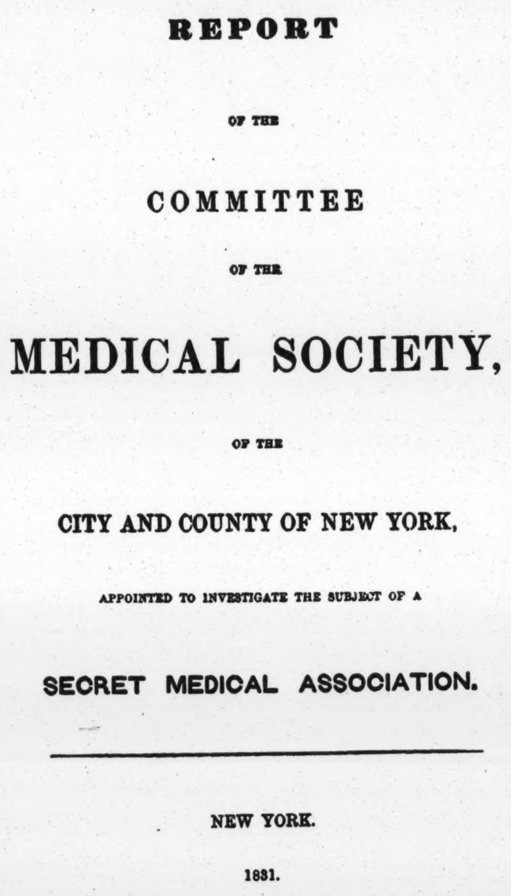
THIRD ACT. The Climax: *In which it is explained how our hero, the Kappa Lambda Society of Aesculapius, became seriously involved in difficulties in Philadelphia, the effects of which became even more serious in New York.*

Why it was that the editors of the *North American Medical and Surgical Journal*—Drs. Hodge, Bache, Meigs, Coates, and La Roche—should have felt it expedient in publishing the fourth volume of the Journal in the winter of 1827–28, to announce themselves as a committee of publication for the Kappa Lambda Association, and to explain so carefully the details of the founding of the Society and its alleged aims, is quite an interesting mystery. It appears that these editors took the stand in the libel suit against Dr. Beattie, brought by the impetuous founder of Jefferson Medical School, Dr. McClellan, in support of Beattie and to substantiate his statements against the character of Dr. McClellan. It seems that the suit engaged two trials, the first of which resulted in McClellan's favor. Beattie appealed, and it was in the second suit that he received such support. It is possible that McClellan, suspecting organized action against himself, threatened to expose what he knew of medical politics in Philadelphia, and that the editors of the Kappa Lambda scientific publishing enterprise took occasion publicly to forestall such a move by an announcement in their journal. At any rate, the existence of the secret medical association was brought out in the trial, much against the will of the witnesses, who were the editors of the journal.

The public reports of the trial were made to the profession in Philadelphia only, but in October, 1829, a full account of the affair appeared in an article headed "Secret Medical Associations" in the *New York Medical and Physical Journal*. It was published anonymously, as if by a reporter, and its purpose was clearly to exonerate Dr. McClellan, while calling attention to the operation of an organized secret band against him. No comment was printed with the article, except "the expression of a sincere opinion that the medical atmosphere of New York is untainted by the exhalations of any branch from such a parent stem." This article drew a bitter reply in the pages of the *North American Medical and Surgical Journal*, in its next issue, that of January, 1830. The worthy editors of the Kappa Lambda scientific publishing enterprise rose to the defense of the Society, and in carefully veiled language justified their attacks on McClellan, cast aspersions on New York medical politics, and assured the public that Kappa Lambda did have a very excellent branch in New York City.[9] This was a mistake.

Open and public discussion of the secret organization followed in New York medical circles, where heretofore, "self-respect prevented gentlemen from giving utterance to their thoughts, or language to their feelings." On the 13th of October, 1830, general opinion among the medical men, outside the secret clique, found expression in a note to the American *Lancet*, signed "Medicus," the author of which was Dr. John Stearns, long a friend of Hosack, Mitchell, and the old faculty of the College of Physicians and Surgeons. In this note, the secret organization was roundly denounced, and a list of known members, which included most of the new faculty of the College of Physicians and Surgeons which had displaced the old in 1826, was published.[10] This resulted in a libel suit against the *Lancet*, which came to nought. The men whose names were published as members of the now discredited secret band called upon Dr. Stearns, and with threats and pleadings induced him publicly to retract his accusations. What must have been his feelings, when he later found, that after all, his statements had been correct.

Dr. Samuel Brown, the founder of Kappa Lambda, died of epileptic attacks in January, 1830, just about the time this exposé of his cherished scheme for righting the evils of the medical profession in this country took place. What hand he had in these troubles is not known. Probably it was little.



REPORT

OF THE

COMMITTEE

OF THE

MEDICAL SOCIETY,

OF THE

CITY AND COUNTY OF NEW YORK,

APPOINTED TO INVESTIGATE THE SUBJECT OF A

SECRET MEDICAL ASSOCIATION.

NEW YORK.

1831.

Title Page of the "Report" of thf New York Medical Society's Committee

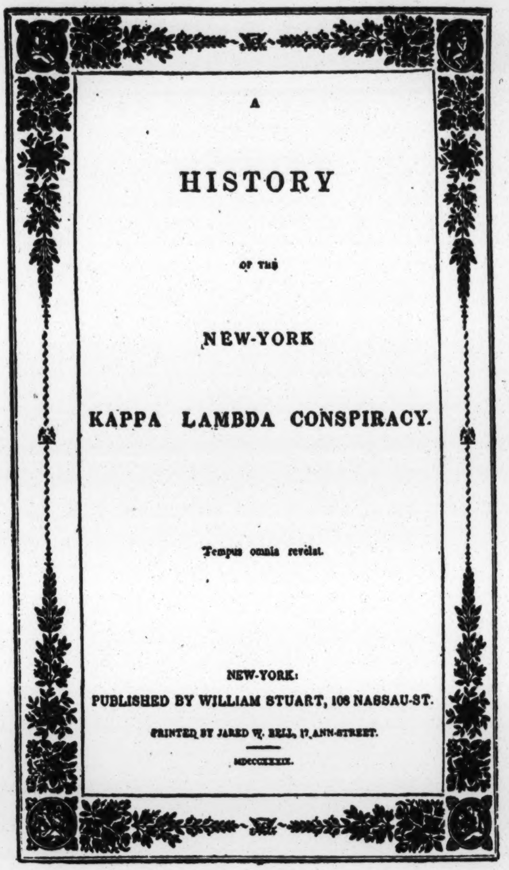
Fourth Act. The Falling Action: *In which is told how our hero, the Kappa Lambda Society of Aesculapius, tried to save himself from defeat and utter ruin, and how it was all to little avail.*

On June 20, 1831, the President of the New York County Medical Society was directed by Hosack, Mitchell, and their associates to call a special meeting for the consideration of the secret organization. At the meeting, to avoid open fighting, a committee composed of Drs. Philip E. Milledoler, Felix Pascalis, Abraham D. Wilson, and Hans R. Gram, was appointed to investigate the situation. A formal report was rendered by this committee, which was approved by the Medical Society (consisting of 290 members) almost unanimously, and ordered published by its authority, October 27, 1831, over the hand of the recording secretary, Dr. F. Winthrop Walsh. The report was carefully and judiciously written. Details were given of the difficulties and discourtesies suffered by members of the committee in their endeavors to secure information from members of the secret society. Twenty-six members were mentioned by name; the society was assumed to have been founded twelve years previously; its two prominent requirements were stated to be secrecy and exclusiveness, "the former extending to the fact of the existence of the Institution and to its proceedings; whilst the latter is carried so far, as to exclude any candidate who does not receive a unanimous vote"; the pledge of the organization was given; the facts were presented that seven out of eight attending physicians at the New York Hospital were members (Valentine Mott having been appointed before the existence of the society), and that four out of five consulting physicians at the New York Dispensary, and four professorships and the presidency of the College of Physicians and Surgeons had been secured for members of the secret association by unfair means; and after relating many instances of favoritism shown by members of the Society for one another, and of suspicious dealings in regard to the awarding of medical diplomas, the report closes with general remarks pointing out the danger to the profession of any band of organized secrecy within its ranks. Far from imitating the high moral standard of the oath of the ancient Aesculapian brotherhoods of Greece, upon which Kappa Lambda was modeled, its acknowledged pledge, as reported by the committee, was:

> I, ———, do solemnly promise, that by all proper means, I will promote the professional respectability and welfare of the members of this association, and vindicate their characters when unjustly assailed, and that I will not demand any pecuniary acknowledgment for such instruction as it may be convenient for me to afford to the son of any indigent member, as may be in the opinion of the society qualified by his previous education, and talents, and moral character, to become a respectable and useful member of the profession, but that I will afford such instruction gratuitously, in conjunction with the members of the society.

While no such open exposé of conditions in Philadelphia were made, it was quite apparent that a similar situation existed. The editors of the Kappa Lambda scientific publishing enterprise were all prominently connected with the University of Pennsylvania Medical School, and the Pennsylvania Hospital, and in addition, made some interesting contributions to the history of Jefferson Medical School. Thomas Harris and Samuel Jackson, the only other Philadelphia physicians mentioned anywhere by name as being connected with the Society, were also high in the councils of the Pennsylvania Hospital and University during the years in which the Society flourished.

In 1832, the *North American Medical and Surgical Journal,* without taking notice of events in New York City, suspended publication, with no previous announcement or apparent reason, and it was never revived. After the open debate of 1831, in New York, the activities of the Society seemed to have been curtailed. F. P. Henry noted that:



A

HISTORY

OF THE

NEW-YORK

KAPPA LAMBDA CONSPIRACY.

Tempus omnia revelat.

NEW-YORK:

PUBLISHED BY WILLIAM STUART, 108 NASSAU-ST.

PRINTED BY JARED W. BELL, 17 ANN-STREET.

MDCCCXXXIX.

THE COVER OF THE PAMPHLET EXPOSING KAPPA LAMBDA

> In 1836, the Kappa Lambda Association of the United States, which had published twelve volumes of the *North American Medical and Surgical Journal,* was dissolved, and all its private papers, proceedings, etc., were deposited in the library of the College.[11]

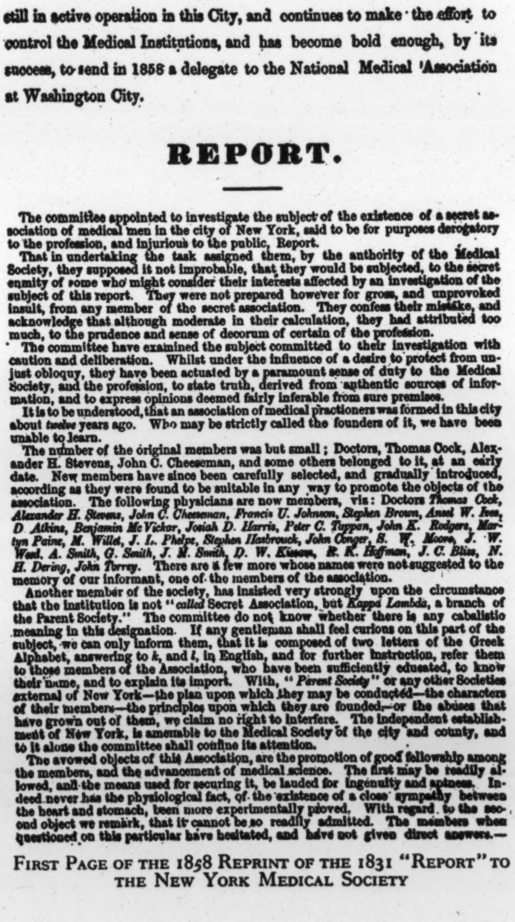
Apparently Dr. Samuel Brown's utopian ideal of bringing peace to the medical profession of these United States had come at last to its own peaceful end.

Fifth Act. The Catastrophe: *In which is related how our hero, the Kappa Lambda Society of Aesculapius, finally comes to his end in a manner well befitting all heroes of classical tragedy.*

It may be recalled that one Dr. George McClellan, an impetuous and righteous fighter, had seen fit to oppose in action the Philadelphia Chapter of Kappa Lambda. Though apparently dead, it arose in spirit to trouble its one-time opponent. In 1838, for reasons which are wholly obscure, bitter dissension arose in the faculty of Jefferson Medical School, founded, it will be recalled, by this same George McClellan. The Trustees of the School saw fit to dismiss this faculty, and to appoint a new one. In the reorganized faculty list, the name of George McClellan was conspicuous by its absence, and in 1841, upon further reorganization of the faculty of Jefferson Medical College, the names of C. D. Meigs, Franklin Bache, and René de La Roche, prominent members of Kappa Lambda, become as equally conspicuous by their presence. Now, how came such things to be? One can never say for sure, but it must be admitted that it was a peculiar coincidence, at least.

In 1839, alarmed perhaps by these events in the City of Brotherly Love, physicians supposedly included, a very remarkable pamphlet made its appearance in New York City. It was entitled "A History of the New York Kappa Lambda Conspiracy," and was made up of anonymous essays taken from the "Medical Examiner," a department of the *New York Weekly Whig*. The collection of essays ran back as far as 1831, revealing the lurid details of the difficulties in the profession at that period. The immediate object of the pamphlet was to tell how the Kappa Lambda Society had won the election of Dr. Francis U. Johnston as President of the New York County Medical Society, by a majority of three, over the anti-Kappa Lambda ticket composed of Dr. John W. Francis for President, and Dr. John Stearns for Vice-President. The airing of the details of the machinery by which this election was secured made it a hollow victory for Johnston. This matter transpired in 1838,—at which time, Dr. George McClellan suddenly came to grief in the School of his own founding.

The concluding essay of the pamphlet, however, rang the death knell of Kappa Lambda, so far as any active participation in medical politics in New York was concerned. It is a masterpiece in sarcasm and righteous wrath. It closes in this manner, leaving little doubt that if need be, swift and decisive action could be taken to end the matter completely if it ever threatened the welfare of the profession again:



This Secret Society *Kappa Lambda*, with additional members, is still in active operation in this City, and continues to make the effort to control the Medical Institutions, and has become bold enough, by its success, to send in 1858 a delegate to the National Medical Association at Washington City.

REPORT.

The committee appointed to investigate the subject of the existence of a secret association of medical men in the city of New York, said to be for purposes derogatory to the profession, and injurious to the public, Report.

That in undertaking the task assigned them, by the anthority of the Medical Society, they supposed it not improbable, that they would be subjected, to the secret enmity of some who might consider their interests affected by an investigation of the subject of this report. They were not prepared however for gross, and unprovoked insult, from any member of the secret association. They confess their mistake, and acknowledge that although moderate in their calculation, they had attributed too much, to the prudence and sense of decorum of certain of the profession.

The committee have examined the subject committed to their investigation with caution and deliberation. Whilst under the influence of a desire to protect from unjust obloquy, they have been actuated by a paramount sense of duty to the Medical Society, and the profession, to state truth, derived from authentic sources of information, and to express opinions deemed fairly inferable from sure premises.

It is to be understood, that an association of medical practioners was formed in this city about *twelve* years ago. Who may be strictly called the founders of it, we have been unable to learn.

The number of the original members was but small; Doctors, Thomas Cock, Alexander H. Stevens, John C. Cheeseman, and some others belonged to it, at an early date. New members have since been carefully selected, and gradually introduced, according as they were found to be suitable in any way to promote the objects of the association. The following physicians are now members, viz: Doctors *Thomas Cock, Alexander H. Stevens, John C. Cheeseman, Francis U. Johnson, Stephen Brown, Ansel W. Ives, D Atkins, Benjamin McVickar, Josiah D. Harris, Peter C. Tappan, John K. Rodgers, Martyn Paine, M. Willet, J. L. Phelps, Stephen Hasbrouck, John Conger, S. W. Moore, J. W. Wood. A. Smith, G. Smith, J. M. Smith, D. W. Kissam, R. K. Hoffman, J. C. Bliss, N. H. Dering, John Torrey*. There are a few more whose names were not suggested to the memory of our informant, one of the members of the association.

Another member of the society, has insisted very strongly upon the circumstance that the institution is not "*called* Secret Association, but *Kappa Lambda*, a branch of the Parent Society." The committee do not know whether there is any cabalistic meaning in this designation. If any gentleman shall feel curions on this part of the subject, we can only inform them, that it is composed of two letters of the Greek Alphabet, answering to *k*, and *l*, in English, and for further instruction, refer them to those members of the Association, who have been sufficiently educated, to know their name, and to explain its import. With, "*Parent Society*" or any other Societies external of New York—the plan upon which they may be conducted—the characters of their members—the principles upon which they are founded,—or the abuses that have grown out of them, we claim no right to interfere. The independent establishment of New York, is amenable to the Medical Society of the city and county, and to it alone the committee shall confine its attention.

The avowed objects of this Association, are the promotion of good fellowship among the members, and the advancement of medical science. The first may be readily allowed, and the means used for securing it, be lauded for ingenuity and aptness. Indeed never has the physiological fact, of the existence of a close sympathy between the heart and stomach, been more experimentally proved, With regard to the second object we remark, that it cannot be so readily admitted. The members when questioned on this particular have hesitated, and have not given direct answers.—

First Page of the 1858 Reprint of the 1831 "Report" to the New York Medical Society

We now take leave, for the present, of the hated theme, believing that the days of Kappa Lambda are numbered, and that it is about to meet the fate of all things which creep upon the face of the earth. A spirit is aroused which cannot be satisfied until its fate is sealed. We advise it to die as soon and as decently as possible, and the most decent death of which it is susceptible is *felo de se*; imitating in this as in so many other instances, the reptile which is said to pierce its breast with its own forked tongue, when escape is impossible. The next annual meeting of the Medical Society would, doubtless, vote a monument to its memory, damning it to everlasting fame. And we ourselves, here furnish an epitaph:

> Pause, traveler! and read the tale
> Which I relate and yet bewail:
> Here lies the Kappa Lambda wight,
> Begot by Selfishness on Night.
> It was a thing of craft and guile,
> Which bowed and smiled, and wronged the while,
> Through dark and sinuous paths, by stealth,
> It crawled to office, gathered wealth.
> But sorely foiled its strife to trace
> Its name, 'midst those of noble race;
> It sought for fame and found but—place!
> Exposed, at length, to truth's pure ray,
> It raved, writhed, withered, passed away,
> And caused a laughing holiday!
> But hark! forevermore doth come,
> A voice of warning from the tomb:
> Does love of fame thy soul inspire,
>   To soar above the vulgar throng,
> Like Cotopaxi's peak of fire,
>   The lesser Andine cliffs among?
> Ponder my moral, and be wise,
>   To learn betimes from other's woe,
> That thou cans't never, never rise,
>   By sinking low.
> Does love of wealth or lust of place
>   Allure to deeds of infamy?
> Pause! Buy not baubles with disgrace—
>   Remember Me![12]

But what was Kappa Lambda? The question remains quite unanswered after all.[13]

Epilogue: *In which, really, there is nothing much to say.*

No man, or group of men, can long stand against the terrible assaults of righteous ridicule, and with this crushing blow from New York City against the Kappa Lambda Society of Aesculapius, peace descended,—comparative peace at least, (to paraphrase Dr. René de La Roche's apologetic words) on the medical profession of these United States, even as Dr. Samuel Brown had so ardently wished that it would.

But as Kingsley in his preface to "Hypatia" had occasion to observe, the old foes are continually rising against us, disguised it may be in new faces. For some unknown reason, some agency took the liberty of reprinting in 1858 the report to the New York Medical Society of the committee appointed to investigate the secret medical association, with no other comment than the following prefixed to the first page of the report:

> This Secret Society Kappa Lambda, with additional members, is still in active operation in this City, and continues to make the effort to control the Medical Institutions, and has become bold enough, by its success, to send in 1858 a delegate to the National Medical Association at Washington City.

The 1831 report then follows verbatim.

The presence of a dozen or so Greek letter fraternities in our American Medical Schools, and holding their members even in practice, may be a matter for no concern at all. But the mental attitude so commonly found along "Main Street," and pictured by Mr. Sinclair Lewis in so realistic, and therefore in so unpleasing a manner—this attitude, with its worshipful regard for any esoteric order of bird or beast, with the very utilitarian benefits to be derived therefrom, should really not be the attitude of sane men practicing medicine. What man can meddle in such hocus-pocus, and retain his self-respect? Physicians are commonly reputed to be, and indeed, many of them even admit themselves, that they are just a little better than the ordinary run of men.

NOTES

[1] Quoted from "A Brief Sketch of the History of Lexington, Kentucky and of Transylvania University, Delivered as an Introductory Lecture to the Winter Course in the Medical Department of Transylvania University, on Monday evening, November 6th, 1854, by Robert Peter, M. D., Professor of Chemistry, Pharmacy, etc., etc., etc. Published by the Request of the Medical Class. Lexington, Ky., D. C. Wickliffe, printer, 1854."

[2] "Autobiography of Samuel D. Gross," Philadelphia, 1887, i, 44.

[3] Most of these details of Brown's life were culled from René de La Roche's eulogistic memoir of Brown, in Gross's "American Medical Biography," Philadelphia, 1861.

[4] Letter of Orlando Brown to Dr. Robert Peter, Oct. 31, 1854.

[5] Gross. "American Medical Biography," Philadelphia, 1861, p. 243.

Two or three points are worth noting in this remarkable apology, written perhaps around 1859 or 1860:

1. Frank admission of secrecy.
2. Brown's guiding hand in framing its regulations.
3. The acknowledgement that a unanimous vote of those present was necessary for admission.
4. The hesitancy in regard to its success.
5. The establishment of the *North American Medical and Surgical Journal* at Brown's suggestion.
6. Finally that the society did not close its career, —but "rather ceased to hold its meetings."

[6] Caldwell, it seems, was in continued difficulty with his colleagues at Transylvania, and speaks of them, in his "Autobiography" with profound contempt.

[7] F. P. Henry. "Standard History of the Medical Profession in Philadelphia," Philadelphia, 1891. The remarks quoted form a footnote to a statement that the *North American Medical and Surgical Journal* was published by the Kappa Lambda Association of the United States.

[8] From the biographical sketch of McClellan in Gross's "American Medical Biography."

[9] Medical Politics. "In looking over the pages of the *New York Medical Journal* for October last, our attention was arrested by an article entitled Secret Medical Association. It consists of a few lines introductory by the Editor, and a very copious extract from what purports to be the report of a 'Trial of a Suit brought into the District Court, for the City and County of Philadelphia, by George McClellan, M.D. against Francis G. Beattie, M.D. for a Libel.' We marvel greatly at the ready credence which the editor of that journal has thought fit to give to the indecent and unjustifiable attacks against the Kappa Lambda Society of this city, and the notoriously false statements of the motives for the feelings and conduct of some of its members, as contained in the extract. A regard for the common courtesies of life, to say nothing of the higher principles of justice and honour, ought, one would suppose, to have restrained him from becoming, as he has virtually become, the sponsor for the aspersions cast on estimable, and we may add esteemed individuals, by an anonymous scribbler, to whose pamphlet there is not, as we are informed, even the name of a printer affixed. The drift of this self-styled impartial reporter is to exonerate Dr. McClellan from censure, to use a mild phrase, by impeaching the motives and conduct of every person whose testimony during this and a former trial was at all adverse to his moral and professional character. Why this so-called *impartial* account is so sedulously withheld from the Philadelphia public, that very few persons within the circle of our acquaintance have been able to procure a sight of it, and yet so industriously directed, as it would seem, to other remoter quarters, and persons who cannot become acquainted with the real state of things, is of itself sufficient evidence of the badness of the cause which it advocates, and the unsoundness of the logic and perversions of facts by which it pretends to set forth this cause. Bat-like, its reporter shuns the broad light of day; his appeal must necessarily be then to the sympathies of those whose vision is like his own. If he find such with whom he can commune in darkness, we shall esteem ourselves happy in having them pointed out to us, that we may avoid becoming the objects of their vampire propensities. But we must confess that we have been greatly surprised and chagrined on his account, to find a professional man, in the responsible station in which the New York Editor stands, giving, on such authority as this pamphleteer, a ready ear to slander against a society, with the general purposes of which he either was or might have been readily acquainted; and of the character of whose members he was bound, before taking such a step as he has done, to inform himself.

"When, in reference to the Kappa Lambda Society of this city, he utters 'the expression of a sincere hope that the medical atmosphere of New York is untainted by the exhalations of any *branch* from such a parent stem,' he speaks with unjustifiable if not affected ignorance of the real state of things. Does he mean to claim for New York an uncommon purity of medical atmosphere, and its remarkable exemption from the storms of party, the polluted blasts of detraction, or any taint of selfish passion; and then contrast such a pleasant state of things there with that prevailing here. He well knows the history of medical politics in his own city —let him learn from us something of that which influences us in ours. We have not here two great medical parties disturbing the social comfort of the city and agitating the state. A very large majority of physicians in Philadelphia are intent on fostering the most amicable relations with each other; each willing to aid his professional brother in all his *fair and honourable* views; and even when he cannot approve, content, for the sake of peace and charity, to be silent. If we could efface the scandalous chronicles in which the hero of the impartial reporter has been such a conspicuous actor, we should be at a loss to find anything of moment during the last eight or ten years which has disturbed the general tranquility of the profession in this city. We will not assert that this peaceful state of things has been solely the work of the Kappa Lambda Society; but we are very sure that it has contributed to this end. Now, agreeable to this view of the matter, we really do not see any reason why the New York Editor should deprecate a branch in his city from such a 'parent stem' here. We are taught the policy of taking a lesson even from an enemy. Where would be the harm in New York borrowing wholesome ethics and a well regulated medical code from her rival? Can the Editor of the Medical and Physical be really ignorant of the fruits of our tree? Is he now for the first time to be told of the code of ethics by which the Kappa Lambda Society is governed; and which it caused to be printed, with the name of the *author* from whom it was taken on the title page, and that of the *printer* at the end of the pamphlet? Was it for him to be ignorant of the annunciation of the purposes of the Society, distinctly given years ago (January, 1827) in an introduction to one of our volumes? How could he, after this annunciation, and with the title page of the *North American Medical and Surgical Journal* staring him in the face, and a knowledge of the heading of many papers in it 'read before the Kappa Lambda Society,' still allow to pass without comment or reprehension the assertion of the Reporter, that the manner in which the members 'pass their time at the meetings of the Association, or how their common funds or united efforts are applied, has not been made known?' Would he, in any other case than the present one, tolerate the singular impudence which should adduce, as a proof of partially and unfair criticism or sinister dealing in a journal, the circumstance of five 'respectable men as individual editors' consenting to have their names published with it, and to act as agents of a Society which held the right of property in the work? As if the very fact of their allowing their names to be put forward, was not of itself a strong and sufficient guarantee of the purity of purpose and independent bearing of their colleagues of the Society. There is no review in Great Britain or in this country which furnishes as strong a pledge of independence to its readers, as was done in the measure thus causelessly aspersed by the reporter. The journal emanating from the Society is in his opinion wanting in impartiality, because it is not favourable to the pretensions of his friend. But let us ask, what journal is, or can be, favourable to a person who requires for his justification a sacrifice of the character of all professional rivals, however, venerable for their years, or estimable for their skill and upright conduct, or whatever may be the particular society or social interests to which they belong. Bad indeed must be that cause in which even a favorable verdict is deemed inadequate to heal the many wounds of reputation, without the additional aid of an anonymous 'Report' and of studied misrepresentations."

Gross in his "Autobiography" infers that Beattie brought the suit against McClellan. This is incorrect. Gross makes no reference to the circumstances.

[10] This list included Alexander H. Stevens, John Augustine Smith, John B. Delafield, and other prominent members of the New York profession.

[11] This statement is made in referring to the growth of the Library of the College of Physicians, Philadelphia. It is not known whether these papers are still there.

[12] This pamphlet was apparently distributed throughout the professional circles of the country, and among prominent laymen. In the front of the pamphlet, the *New York Weekly Whig* stated that it was prepared to defend with reliable evidence any of the remarks contained therein. In view of this statement, and of the fearless publicity given to names and deeds, it is not strange that the members of Kappa Lambda could not stand against public opinion, and that "after a prolonged existence, the society closed its career, or rather ceased to hold its meetings."

[13] There is to be found much interesting material about Transylvania and Dr. Samuel Brown in the Filson Club Publications, Number 20; and about these, with references to Kappa Lambda in the Historical Number of the *Kentucky Medical Journal*, November, 1917.

EDITORIALS

THE PINEAL GLAND AND SNUFF

The following *jeu d'ésprit* was written by George Berkeley (1685–1753), the famous bishop of Cloyne, whose medical learning is chiefly known through his advocacy of tar-water as a panacea for all diseases.

He was one of the foremost metaphysicians of his age and the friend and intimate of Addison, Steele, Pope, and Arbuthnot. Swift was his friend; and Esther Vanhomrigh, Swift's "Vanessa," left Berkeley half of her property.

To Americans Berkeley possesses a special interest because of his schemes to further the moral and intellectual welfare of the Colonies. He proposed to establish a college in the Bermudas for the education of the children of the planters and of the natives, its grand object being to send forth missionaries to propagate the Protestant religion. In furtherance of his plan he went to America in 1728, remaining there until 1731. Most of this period he passed in New England, at Newport, Rhode Island, where he bought a farm. When he left America he sold the property he had acquired there and made over the proceeds to Yale College for the foundation of scholarships. He also gave books both to Harvard and Yale, and an organ to Trinity Church at Newport.

Berkeley was not a practical anatomist and only an amateur physician, but his standing as a metaphysician and theologian gave much weight to his opinions on all subjects. His tar-water was widely vaunted and won endorsement from many persons of all classes. He was one of the most universally popular men in England, and his benevolence and philanthropy caused him to be universally respected, even by those who ridiculed his panacea.

In 1744 he published his "Siris, a Chain of Philosophical Reflections and Inquiries concerning the Virtues of Tar-water, etc.," which went through a number of editions and was translated into French, German, Dutch and Portugeese.

Berkeley died a poor man because of his generosity. He not only worked for the betterment of mankind but gave away the large sums which at times came into his hands, from his preferments or other sources.

PHILOSOPHICAL SNUFF

O philosophy, thou guide of life, and discoverer of virtue!—*Cicero.*

To Nestor Ironside, Esq.
Tuesday, April 21, 1713.

Sir,

I am a man who have spent great part of that time in rambling through foreign countries which young gentlemen usually pass at the university; by which course of life, although I have acquired no small insight into the manners and conversation of men, yet I could not make proportionable advances in the way of science and speculation. In my return through France, as I was one day setting forth this my case to a certain gentleman of that nation with whom I had contracted a friendship, after some pause he conducted me into his closet, and, opening a little amber cabinet, took from thence a small box of Snuff, which he said was given him by an uncle of his, the author of "The Voyage to the World of Descartes"; and, with many professions of gratitude and affection, made me a present of it—telling me at the same time, that he knew no readier way to furnish and adorn a mind with knowledge in the arts and sciences than that same Snuff rightly applied.

You must know, said he, that Descartes was the first who discovered a certain part of the brain, called by anatomists the Pineal Gland, to be the immediate receptacle of the soul, where she is affected with all sorts of perceptions and exerts all her operations by the intercourse of the animal spirits which run through the nerves that are thence extended to all parts of the body. He added, that the same philosopher having considered the body as a machine or piece of clockwork, which performed all the vital operations without the concurrence of the will, began to think a way may be found out for separating the soul for some time from the body, without any injury to the latter; and that, after much meditation on that subject, the above-mentioned virtuoso composed the Snuff he then gave me; which, if taken in a certain quantity, would not fail to disengage my soul from my body. Your soul (continued he) being at liberty to transport herself with a thought wherever she pleases, may enter into the Pineal Gland of the most learned philosopher; and, being so placed, become spectator of all the ideas in his mind, which would instruct her in a much less time than the usual methods. I returned him thanks, and accepted his present, and with it a paper of directions.

You may imagine it was so small improvement and diversion to pass my time in the Pineal Glands of philosophers, poets, beaux, mathematicians, ladies, and statesmen. One while, to trace a theorem in mathematics through a long labyrinth of intricate turns and subtleties of thought; another, to be conscious of the sublime ideas and comprehensive view of a philosopher, without any fatigue or wasting of my own spirits. Sometimes, to wander through perfumed groves, or enamelled meadows, in the fancy of a poet: at others, to be present when a battle or a storm raged, or a glittering palace rose in his imagination; or to behold the pleasures of a country life, the passion of a generous love, or the warmth of devotion wrought up to rapture. Or (to use the words of a very ingenious author) to

> Behold the raptures which a writer knows,
> When in his breast a vein of fancy glows,
> Behold his business while he works the mine,
> Behold his temper when he sees it shine.
>
> *Essay on the Different Styles of Poetry.*

These gave me inconceivable pleasure. Nor was it an unpleasant entertainment sometimes to descend from these sublime and magnificent ideas to the impertinences of a beau, the dry schemes of a coffee-house politician, or the tender images in the mind of a young lady. And as, in order to frame a right idea of human happiness, I thought it expedient to make a trial of the various manners wherein men of different pursuits were affected; I one day entered into the Pineal Gland of a certain person who seemed very fit to give me an insight into all that which constituted the happiness of him who is called "a man of pleasure." But I found myself not a little disappointed in my notion of the pleasures which attend a voluptuary, who has shaken off the restraints of reason.

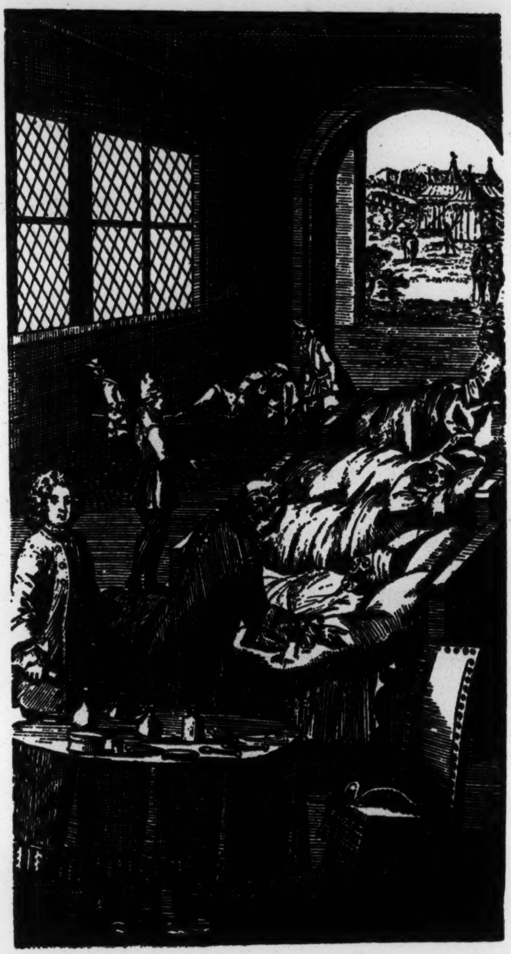
His intellectuals, I observed, were grown unserviceable by too little use, and his senses were decayed and worn out by too much. That perfect inaction of the higher powers prevented appetite in prompting him to sensual gratifications; and the outrunning natural appetite produced a loathing instead of a pleasure. I there beheld the intemperate cravings of youth, without the enjoyments of it; and the weakness of old age, without its tranquillity. When the passions were teazed and roused by some powerful object, the effect was, not to delight or soothe the mind, but to torture it between the returning extremes of appetite and satiety. I saw a wretch racked, at the same time, with a painful remembrance of past miscarriages, a distaste of the present objects that solicit his senses, and a secret dread of futurity. And I could see no manner of relief or comfort in the soul of this miserable man, but what consisted in preventing his cure, by inflaming his passions and suppressing his reason. But, though it must be owned he had almost quenched that light which his Creator had set up in his soul, yet in spite of all his efforts, I observed at certain seasons frequent flashes of remorse strike through the gloom, and interrupt that satisfaction he enjoyed in hiding his own deformities from himself.

I was also present at the original formation or production of a certain book in the mind of a Free-thinker, and believing it may be not unacceptable to let you into the secret manner and internal principles by which that phænomenon was formed, I shall in my next give you an account of it. I am, in the mean time,

Your most obedient humble servant,

ULYSSES COSMOPOLITA.

AN UNIQUE ENGRAVING



The accompanying engraving is the frontispiece to Andreas Hütter's "Fünfzig Chirurgische Observationen," Rostock, 1718.

So far as we know it is the first pictorial representation of a military camp hospital.

The surgeon wears the characteristic uniform of the army surgeon of the late seventeenth and eighteenth centuries. His coat, known as the "justaucorps," is a garment which came to be the habitual costume of the practicing physician of the eighteenth century.

A couple of bearers transporting a patient on a litter, are also well shown in the picture.

CORRESPONDENCE

To the Editor:

The classical description of angina pectoris was first given by William Heberden (1710–1801) in 1768, but the first description of the symptoms of this interesting disease are recorded by the Earl of Clarendon in his "Memoirs," where he describes the seizures and sudden death of his father.

This description is of great interest and is here reproduced as given in the "Memoirs":

> Some months after he was married, he went with his Wife to wait upon his Father and Mother at his house at Pirton, to make them sharers in that satisfaction which they had so long desired to see, and in which they took great delight. His Father had long suffered under an indisposition (even before the time his Son could remember) which gave him rather frequent pains than sickness; and gave him cause to be terrified with the expectation of the stone, without being exercised with the present sense of it; but from the time he was fifty years of age, it increased very much, and four or five years before his death, with circumstances scarce heard of before, and the causes whereof are not yet understood by any physician; he was very often, both in the day and the night, forced to make water, seldom in any quantity, because he could not retain it long enough, and in the close of that work, without any sharp pain in those parts, he was still and constantly seized on by so sharp a pain in the left arm, for half a quarter of an hour, or near so much, that the torment made him as pale (whereas he was otherwise of a very sanguine complexion) as if he were dead; and he used to say, "that he had passed the pangs of death, and he should die in one of those fits"; as soon as it was over, which was quickly, he was the cheerfullest man living, eat well such things as he could fancy, walked, slept, digested, conversed with such a promptness and vivacity upon all arguments (for he was *omnisariam doctus*), as hath been seldom known in a man of his age; but he had the image of death so constantly before him in those continual torments, that for many years before his death he always parted with his son, as to see him no more; and at parting still shewed him his will, discoursing very particularly and very cheerfully of all things he would have performed after his death.
>
> He had for some time before resolved to leave the country, and to spend the remainder of his time in Salisbury, where he had caused a house to be provided for him, both for the Neighborhood of the Cathedral Church, where he could perform his devotions every day, and for the conversation of many of his family who lived there, and not far from it; and especially that he might be buried there, where many of his family and friends lay; and he obliged his Son to accompany him thither before his return to London; and he came to Salisbury on the Friday before Michaelmass Day in the year 1632, and lodged in his own house that night; the next day he was so wholly taken up in receiving visits from his many friends, being a person wonderfully reverenced in those parts, that he walked very little out of his house. The next morning, being Sunday, he rose very early, and went to two or three churches, and when he returned, which was by eight of the clock, he told his wife and son, "that he had been to look out a place to be buried in, but found none against which he had not some exception, the Cathedral only excepted, where he had made choice of a place near a kinsman of his own name, and had shewed it to the Sexton, whom he had sent for to that purpose, and wished them to see him buried there," and this with as much composedness of mind as if it had made no impression on him; then went to the Cathedral to sermon and spent the whole day in as cheerful conversation with his friends (saving only the frequent interruptions his infirmity gave him once in two or three hours,

sometimes more, sometimes less) as the man in the most confirmed health could do. Monday was Michaelmass Day, when in the morning he went to visit his Brother Sir Laurence Hyde, who was then making a journey in the service of the King, and from him went to the Church to a sermon, where he found himself a little pressed as he used to be, and therefore thought fit to make what haste he could to his house, and was no sooner come thither into a lower room, than having made water, and the pain in his arm seizing upon him, he fell down dead, without the least motion of any limb. The suddenness of it made it apprehended to be an apoplexy, but there being nothing like convulsions, or the least distortion or alteration in the visage, it is not like to be from that cause, nor could the physicians make any reasonable guess from whence that mortal blow proceeded. He wanted about six weeks of attaining the age of seventy, and was the greatest instance of the felicity of a country life that was seen in that age; having enjoyed a competent, and to him a plentiful fortune, a very great reputation of piety and virtue, and his death being attended with universal lamentation.

JACOB ROSENBLOOM, M.D.,
Pittsburgh, Pa.

To the Editor:

It is now generally accepted that the name "Syphilis" was first used in connection with the disease in 1530, in the celebrated poem by Giralamo Fracastorius of Venice, but the etymology of the name is still uncertain. Apparently it is the opinion of most that this name was coined by the Veronese physician, for it seemed to be the first use of that particular name. It is interesting to note, however, that a very similar name appears in the works of Procopius—scribe and physician at the time of Justinian, about 535 A.D., in his book on the Gothic War, v, vii, 34, 35. While Belisarius, returning from the conquest of Gelimer and his Vandals in Africa, was advancing upon Sicily, Constantianus was hurrying up the Ionian Gulf to Salona. We may quote from Dewing's "Translation" (iii, 67):

> And when he had put in at a place close to the city he disembarked his army on the mainland and himself remained quiet there, but he selected five hundred from the army and setting over them as commander Siphilas, one of his own bodyguards, he commanded them to seize the narrow pass, which as he had been informed was in the outskirts of the city. And this Siphilas did.

There is no other mention of "Siphilas." He probably attended Constantianus from Constantinople where the latter was "Commander of the Royal Grooms."

The similarity of the names of Constantianus' staff officer, and Fracastorius' shepherd may excite our curiosity. It should be remembered that Procopius is one of the best known and most complete historians of this particular period of the decline of the Roman Empire, and might well have appealed to the varied interests of Fracastorius.

G. D. DELPRAT, JR., M.A.,
San Francisco, Calif.

BOOK REVIEWS

Life and Times of Ambroise Paré [1510–1590] With a New Translation of his Apology and an Account of his Journeys in Divers Places. By Francis R. Packard, M.D. New York: Paul B. Hoeber. 1921.

There is, perhaps, no figure in surgical history that has stood out more conspicuously than that of Ambroise Paré. His is one of the names with which every medical student becomes familiar. He did no one great thing that marked an epoch in surgical theory or practice, nor did he inaugurate any new principal or method of operating, and yet he has passed down the centuries to us as one of the outstanding surgical figures of the past. One, who would wonder why this should be, will find the answer in this interesting description of the man and his times and in the translation which Dr. Packard gives of his "Apology and Treatise Containing the Voyages Made into Divers Places."

I should say that Paré owed his fame during his life to the fact that he brought to bear on his surgical practice a wholesome common sense; that he declined to accept the superstitions and dogmas so common in the healing art in the sixteenth century; and that he had the courage to defend his stand on all occasions by word of mouth and in written communications. To us, he is famous because he has left behind him exhaustive and indelible accounts of his work and experiences. Although he was considered by his contemporaries an unlearned man, largely because of his inability to write in Latin, he was a prolific writer in his native tongue, and his large and handsomely illustrated tomes are today found in all large medical libraries. It is to these anatomical and surgical volumes that he owes his lasting fame. He lived in, what seems to us, a crude civilization and his surgery was in keeping with it, from a modern point of view; but he did much to separate it from the ignorance, dogma and superstition with which it had been surrounded for centuries.

Most medical men, if asked what they knew of Paré, would reply that he introduced the ligation of vessels in surgical operations. All his life he contended for the use of ligatures in amputations instead of the cautery, and defended this practice with the same arguments that anyone might employ today; but he never claimed any originality in this, but said, he was reviving a method forgotten for centuries. That he was not altogether successful is shown by the fact that we find the ligation of vessels in amputations being again revived by another great Frenchman, Desault, nearly two hundred years later.

This book will be found gratifying to those interested in French history, to those who love medical history, to those who care to read the lives of interesting men who lived in interesting times, and to those who enjoy good literature. Therefore, it will prove of interest to laymen and medical men alike and its perusal will entertain and satisfy both.

Medical discussion was quite as acrimonious in the days of Paré as it was a generation ago, and adversaries were attacked in no mincing words and seldom in a spirit of fairness. Paré defending an attack made on the use of the ligature, accuses his opponent with having his sense dulled by "anger and ill-will; because there is nothing which has more power to chase reason from its seat than anger and ill-will." On another occasion in his "Apology" he draws an amusing analogy between his detractors and a certain country boy who went to Paris to study French.

> I will say you are like a young lad of Low Brittany, plump buttocked and thickset, who demanded leave of his father to come to Paris to learn French. When he arrived, the organist of Nôtre Dame found him at the gate of the Palace, and took him in to blow the organ, where he was three years. Finding he could speak French somewhat, he returned to his father telling him that he spoke good French, and, moreover, that he knew how to play on the organ. His father received him very joyfully, because he was so wise in so short a time. He went to the organist of their great church, and prayed him to permit his son to play on the organ, to the end that he might know if his son was as good a master as he said he was. Which the master organist accorded willingly. Coming to the organ he threw himself with a great leap to the bellows. The master organist bade him play and that he would blow for him. Then this good organist said to him that he knew nothing else than how to blow. I believe likewise, *mon petit maistre,* that you know nothing else but to cackle in a chair, but I will play on the keys and make the organs resound, that is to say that I will perform the operations of surgery, that which you know not at all how to do, because you have not budged from your study and the schools, as I have said.

One might almost be allowed to say in this connection that the organ blowers have survived the sixteenth century.

The following account of an occurrence at the siege of Metz by the Germans and Spanish may recall some of the speeches of a more recent German Emperor:

> The Duke of Alva represented to the Emperor that every day his soldiers were dying, even to the number of more than two hundred, and that there was little hope of entering the town, seeing the weather and the great number of soldiers who were in it. The Emperor demanded what men they were who were dying, and if they were gentlemen and men of mark. He was answered that they were all poor soldiers. Then he said it was no matter if they did die, comparing them to caterpillars, grass-hoppers and cockchafers, which eat the buds and other good things of the earth, and that if they were men of worth they would not be in his camp for six livres a month, and therefore there was no harm if they died.

Anyone interested in gun-shot wounds of the lungs will enjoy Paré's description of such a wound received by Monsieur de Martigues and which he treated in a most practical and careful manner. His description is minute and his reasoning remarkable, though his explanation of the passage of blood in the feces and urine is amusing. His error here was due to the confused ideas then held regarding the circulation of the blood. His distinguished patient died as he said he would, and Paré performed an autopsy which corroborated his opinion as to the character of the injury. The account of this case alone shows what a thorough and rational surgeon Paré was and how much more experience profited him than most of his contemporaries.

In his "Journey to Hesdin" (1553) Paré tells how he was taken prisoner and gained his liberty by successfully treating a leg ulcer in the case of Monsieur de Vaudeville. This discourse on the dressing of leg ulcers might be read with profit by any surgeon today, and it is interesting to note the stress which he lays on the importance of infrequent change of dressing because of its interference with epidermization.

In his "Journey to Bayonne" (1564) Paré describes the case of a Spanish gentleman who "came to be touched by the late King Charles for the King's evil." He found that his patient had a large cervical abscess from which he evacuated "a great quantity of worms," and he then proceeded to remove five salivary calculi from a ranula in the same individual.

In a review of this interesting volume it is difficult to refrain from further quotations from the writings of this remarkable surgeon of the sixteenth century.

Dr. Packard is to be congratulated on the result of his labor, an interesting, accurate and valuable contribution to medical history. The illustrations have been well chosen and a very useful index concludes the volume. JOHN H. GIBBON.

THE EVOLUTION OF MODERN MEDICINE. A Series of Lectures Delivered at Yale University on the Silliman Foundation in April, 1913. By Sir William Osler, Bart., M.D., F.R.S. New Haven: Yale University Press. 1921.

No more appropriate tribute to the memory of Osler could be imagined than this volume in which his most typical intellectual attributes can be traced on every page. The lectures which it contains, created a profound impression, and their appearance in printed form was eagerly awaited by all who are interested in the cultured and broader aspects of medical history.

The vast amount of work which Osler performed in a strictly professional capacity during the War, did more than can ever be fully appreciated for the allied cause, by the heartiness with which he devoted himself to welcoming and aiding the medical men from Canada and the United States, who went overseas to serve in the Allied Armies. No medical man of his time had a wider personal acquaintance in his profession throughout the world; but it was not only to those who enjoyed or were honored by such acquaintance that he extended his unbounded hospitality and kindness. Every American or Canadian doctor was sought out and made to feel the magic touch of that great man's kindliness, put in the path of seeing what would interest and help him in his new field of work, and braced for his task by the inspiring example of the great leader. Not only were they entertained by Sir William and Lady Osler at their beautiful home, but Sir William and Lady Osler were at the hospitals or camps in which they worked, and the magic wand of such benignant friendship was the open sesame to many opportunities, professional and social, which were of the greatest benefit to them.

With such memorable preoccupations, the final preparation of these lectures by the author for publication was practically impossible. His untimely death left them without the few necessary final touches. These have been supplied by the loving care of those best qualified by knowledge of the subject and intimate friendship with the author. Fielding H. Garrison, Harvey Cushing, Edward C. Streeter, and Leonard L. Mackall have corrected the proof and verified the citations and references as only they could have done. The result is a brilliant *aperçu* of the history of medicine from its origin to the present day. Needless to say that for completeness, accuracy, and proper proportion it cannot be excelled. It is history as it should be taught, not a dry list of dates and names, but a brilliant narrative of the various epochs which have marked the progress of the science. Important discoveries and men are dealt with at sufficient length, and the reader is carried along by the intense interest of the story without having his attention deflected by the interjection of unimportant or irrelevant matters.

This country has produced two great works on medical history, that of Garrison, the best reference work on the subject, and this of Osler, the most interesting résumé.

FRANCIS R. PACKARD.